

0021296

DEPARTMENT OF ENVIRONMENTAL SERVICES
CITY AND COUNTY OF HONOLULU

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DEPUTY DIRECTOR

IN REPLY REFER TO:
EMC 13-164

October 22, 2013

Clean Water Branch
Environmental Management Division
Department of Health
919 Ala Moana Boulevard, Room 301
Honolulu, Hawaii 96814-4920

2013 OCT 23 12:19PM

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Gentlemen:

Subject: Public Notice Permit for the National Pollutant Discharge Elimination System (NPDES) Draft Permit dated September 25, 2013, for the Kailua Regional Wastewater (KRWWT) Submittal of Outfall Dilution Analyses Technical Memorandum, dated October 21, 2013, Permit No. HI 0021296

The City and County of Honolulu ("City") hereby submits the attached subject technical memorandum detailing the outfall dilution assessment for the City's Kailua Regional Wastewater Treatment Plant outfall. This technical memorandum was prepared by HDR | HydroQual using the United States Environmental Protection Agency Visual PLUMES three-dimensional Updated Merge (UM3) model, and is being submitted to the Department of Health, State of Hawaii, in response to the permit writer's inquiry during his review of the City's application for updated information on outfall dilution.

If you have any questions, please contact Cleveland (CJ) Jaramilla at 768-3253 or Bryan Wienand at 768-3140 of our Monitoring and Compliance Branch, Division of Environmental Quality.

Sincerely,



Lori M.K. Kahikina, P.E.
Director

Enclosure: One (1) CD Copy - Kailua RWWTP Outfall Dilution Analyses Technical Memorandum



TECHNICAL MEMORANDUM

TO: CITY AND COUNTY OF HONOLULU,
DEPARTMENT OF ENVIRONMENTAL
SERVICES

FROM: ANDREW J. THUMAN, P.E.

DATE: OCTOBER 21, 2013

RE: KAILUA REGIONAL WASTEWATER
TREATMENT PLANT OUTFALL
DILUTION ANALYSES
FILE: CCH - 00343/206655-002

We have completed an outfall dilution assessment for the City and County of Honolulu (CCH) Kailua Regional Wastewater Treatment Plant (KRWWTTP) outfall using recent effluent and ocean data to determine critical minimum and average dilution factors. Dilution calculations for the KRWWTTP were completed using the United States Environmental Protection Agency (EPA) Visual PLUMES three-dimensional Updated Merge (UM3) model¹. The dilution modeling procedure was consistent with the EPA and DOH guidance. The same dilution modeling procedure developed by HDR | HydroQual for the Honouliuli Wastewater Treatment Plant (HWWTP), and submitted as part of the review process for the HWWTP application for an NPDES permit, was used in the analyses for the KRWWTTP. The dilution analyses were completed for two distances from the outfall: the plume trap or surface hit level (end of near-field momentum and buoyancy dominated mixing); and the zone of mixing (ZOM), which extends 1,000 feet away from the diffuser. Dilution values were calculated for each month of the year for design flow and 3-hour peak flow conditions.

The EPA defines initial dilution as “the dilution achieved in a plume due to the combined effects of momentum and buoyancy of the fluid discharged from an orifice, and due to ambient turbulent mixing in the vicinity of the plume”². Critical initial dilution refers to dilution calculated using conservative model input parameters (e.g., 10th percentile current speeds, vertical stratification, and effluent flow conditions)². The ZOM represents an area of continued dilution around the outfall.

¹ Frick, W.E., P.J.W. Roberts, L.R. Davis, J. Keyes, D.J. Baumgartner and K.P. George, 2003. Dilution Models for Effluent Discharges, 4th Edition (Visual Plumes).

² Baumgartner, D.J., W.E. Frick, P.J.W. Roberts, 1994. Dilution Models for Effluent Discharges (Third Edition). Completed for USEPA, Standards and Applied Sciences Division. EPA/600/R-94/086, June 1994.

UM3 is a USEPA developed three-dimensional model for calculating single and multi-port submerged discharge mixing and dilution. The UM3 model has near-field and far-field calculation modules. The near-field module calculates the initial dilution, which is the process of forced entrainment of ambient water into a discharge plume and the subsequent buoyancy induced turbulent and shear processes. In the model, the initial dilution is calculated where the plume is either trapped below the surface or hits the surface. The plume becomes trapped when it is no longer buoyant and ceases to rise through the water column. This is also referred to as the plume trap level or depth, and represents the boundary between the near-field and the far-field. The far-field module calculates plume dilution after the initial plume momentum and buoyancy has dissipated, using the Brooks far-field solution. The dilution in this spatial area is driven by local currents and the far-field diffusion rather than the plume's initial momentum and buoyancy in the water column. UM3 requires input of outfall diffuser length, depth and port configuration; ambient water temperature, salinity and currents; and effluent temperature, salinity and flow rate. UM3 outputs include plume width, rise depth, dilution and distance from the outfall. Model inputs and results are described below.

KRWWT P OUTFALL CONFIGURATION

The KRWWT P outfall diffuser is located in a water depth of approximately 100 feet below mean lower low water (MLLW) and extends 4,072 feet from the cleanout chamber to the start of the diffuser section. The diffuser section has a length of 984 feet and is located approximately 3,500 feet from the shoreline. The diffuser section of the outfall consists of a 48" diameter pipe with 81 ports spaced 12 feet apart in an alternating arrangement along opposite sides of the diffuser. The 81 ports consist of 30 4-inch diameter ports (these 30 ports are currently plugged); 20 4.5-inch diameter ports; 15 5-inch diameter ports; and 16 5.5-inch diameter ports. The smallest ports are located closer to shore and become larger with distance from the shore. The flange at the end of the diffuser also contains two openings: a 5.5-inch diameter opening near the top of the flange and a 4-inch diameter half round opening near the bottom. Due to the varying port sizes, the diffuser was setup in UM3 as follows: 52 total ports; equivalent port diameter of 5.004" (maintains total port area); port spacing of 12 feet; and port elevation of 2 feet above the bottom. This input setup was chosen to maintain the same total port area (diffuser momentum) and for simplifying the varying port diameters. The ports are located 105.45 feet from the surface based on the average depth along the diffuser section where the ports are open. The ports are oriented perpendicular to the main outfall pipe and setup in UM3 as pointing in a northwest direction (125° , using east as 0° with angles increasing in a counter-clockwise direction). These slight modifications have been used before on other projects and are recommended for analysis of the KRWWT P diffuser. Since the typical ambient ocean currents flow parallel to the shoreline features and bathymetric depth contours in a north-south direction, the ambient currents were assigned as flowing to the north (90°). The details

of the diffuser and ambient currents were obtained from the Preliminary Engineering Report for the Mokapu Ocean Outfall³.

UM3 DILUTION MODEL INPUTS

The following model inputs were developed based on available data and recommendations from the permit reviewer reviewing the initial dilution modeling being completed for various CCH outfalls.

- Sixty (60) model cases were set up using data from 2008-2012 to represent the 5-year permit interval for the period starting in January 2013 and ending in December 2017.
- For average dilution calculations, the KRWWT design flow (15.25 MGD) was utilized in lieu of projected average permit period flows based on the permit reviewer's recommended use of the "design flow rate" by the State of Hawaii guidance document, "State Toxics Control Program: Derivation of Water Quality-Based Discharge Toxicity Limits for Biomonitoring and Specific Pollutants" (April, 1989).

For initial dilution calculations, peak flow values were estimated based on applying a peaking factor to projected mean monthly flows. Daily flow values measured between 2008 and 2012 were used to calculate monthly mean flow during this period. Monthly 3-hour peak flow values were determined using the hourly flow data from 2008-2012. For each month, a maximum value from the 3-hour moving averages of the hourly effluent flow values provided the monthly averaged 3-hour peak flows. Monthly peaking factors were thereafter calculated as the ratio of the monthly 3-hour peak flows to the respective monthly averages. The peaking factors were then averaged for each month over the five year period. Thus, there were twelve peaking factors, one for each month. The product of the peaking factors and the projected monthly mean flows resulted in the monthly peak flow for the 60 months (January 2013 through December 2017). Figures 1 through 5 at the end of this section present the hourly (solid line), monthly mean (green circle) and monthly peak (red circle) effluent flows. Attachment 1 (Table A1.1) presents the flow values used in the UM3 modeling analyses.

- The EPA document (#600 3-85 073a), Initial Mixing Characteristics of Municipal Ocean Discharges: Volume I. Procedures and Applications, suggests the "worst-case" conditions is when a combination of the inputs to the dilution model are taken at the worst 10th percentile on a cumulative frequency distribution. This prevents the occurrence of extreme conditions due to outliers from biasing the dilution predictions. Based on this guidance, the UM3

³ Edward K. Noda and Associates, Inc., 1990. Preliminary Engineering Report, Mokapu Ocean Outfall, Mokapu Peninsula, Oahu. Prepared for Division of Wastewater Management, Department of Public Works, City and County of Honolulu, Honolulu, Hawaii. March 1990.

model inputs for effluent temperature and salinity, and ambient current speed were developed.

- Recent KRWTP hourly effluent temperature data were obtained during July and August 2013. The 10th percentile temperature value was used (28.04 °C) for all scenarios based on 157 data points.
- A constant effluent salinity of 6.9 ppt was used for all model cases based on the 90th percentile of effluent salinity data obtained during July and August 2013 (157 data points). The 90th percentile on a cumulative frequency distribution is being used for effluent salinity because a higher salinity provides a more conservative dilution result.
- The input files for ambient temperature and salinity were modified to represent the 60 model monthly cases for each flow condition. Ambient temperature and salinity were obtained from the CCH monitoring station M3 CTD data, which was sampled quarterly at multiple depths from 2008-2012. The quarterly temperature and salinity data were assigned to other months of the year to fill in a complete annual period. Ambient temperature and salinity inputs used in the UM3 modeling analyses are presented in Attachment 2 (Tables A2-1 through A2-10).
- Ambient current speed/direction data obtained by Noda³ during October 1989 as part of a diffuser inspection project were used in the model. Noda deployed five current meters around the diffuser at mid local water depth and the data from current meter #1 were used for these analyses because it was closest to the outfall. The 10th percentile current velocity of 7 cm/s (0.07 m/s) was used along with an average direction of 90° (i.e., a net northerly flow near the diffuser). The ambient current speed and direction were assigned as constant for all 60 model cases.

UM3 DILUTION MODEL RESULTS

Using the model inputs described above, the UM3 model was used to calculate effluent dilution at the first plume trap depth or surface hit and the ZOM boundary. The model runs were completed incorporating enterococcus die-off due to ambient salinity and solar insolation based on an annual average solar radiation near Honolulu (21.2 ly/hr) and the UM3 enterococcus die-off equation, which is based on the USEPA 301(h) technical guidance manual equation B-69. A total of 120 model runs were completed (2 flow cases, 60 months).

The monthly model results are summarized in Attachment 3 (Table A3-1) for effluent dilution and the horizontal distance to achieve this dilution at the first plume trap depth or surface hit for the 3-hour peak flow projections. Monthly effluent dilutions at the ZOM for the design flow (15.25

MGD) are summarized in Attachment 4 (Table A4-1). In these attachments, effluent dilutions are presented without die-off and with die-off (for enterococcus).

Table 1 at the end of this section presents a summary of the 10th percentile dilution results for the 3-hour peak flow case at the first plume trap depth or surface hit (“critical short-term initial dilution”); and the average and geometric mean dilution results for the design flow case at the ZOM boundary (average dilution). Table 1 also presents the effluent dilutions without die-off and adjusted for enterococcus die-off due to ambient salinity and solar insolation levels. Figures 6 and 7 present the monthly effluent dilution results at the plume trap or surface hit level and at the ZOM graphically for the two flow cases.

The 10th percentile dilution presented in Table 1 is recommended for use as the “critical short-term initial dilution” to be used for saltwater chronic toxicity, fish consumption criteria for non-carcinogens, and whole effluent toxicity (WET). The average dilution presented in Table 1 is recommended for use as the “average dilution” value to be used for fish consumption criteria for carcinogens.

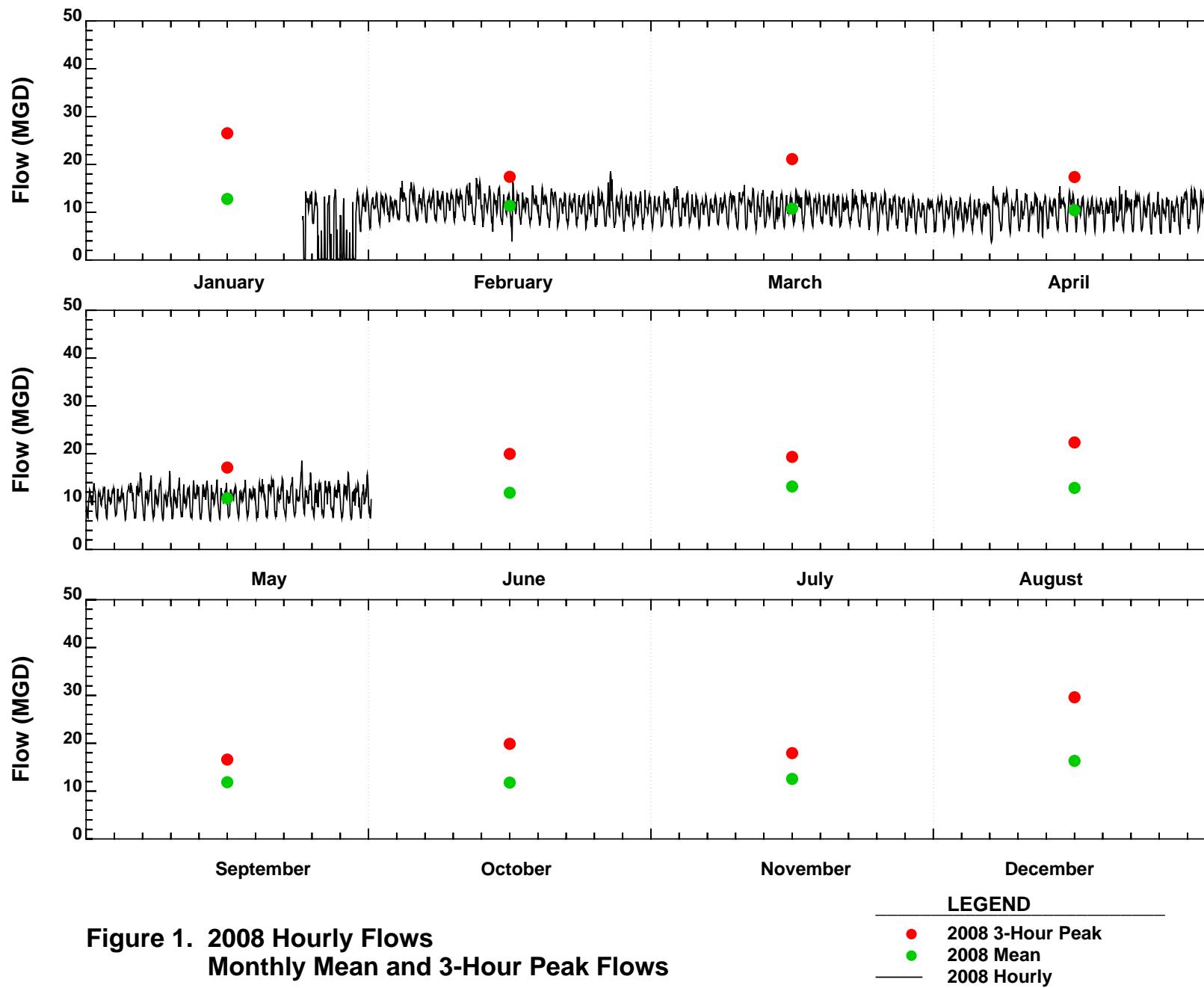
We have also compiled the UM3 dilution model input and output files for the 120 cases used to complete these analyses along with a brief description of the files for delivery to DOH and/or USEPA. These files are provided on the attached CD-ROM and in printed form in Attachments 5 through 6. If there are any questions on the dilution modeling setup or results, please call to discuss.

Table 1. KRWWT Effluent Dilution at Trap or Surface Hit Level and the ZOM Boundary		
Effluent Dilution	At 1st Trap or Surface Hit Level	At ZOM (1,000 ft)
	Projected Peak Flow	Design Flow
10 th Percentile	357.7 (366.3)	n/a
Average	n/a	612.6 (641.8)
Geometric Mean	n/a	610.6 (639.8)

Note: Dilution values in parenthesis include enterococcus die-off.

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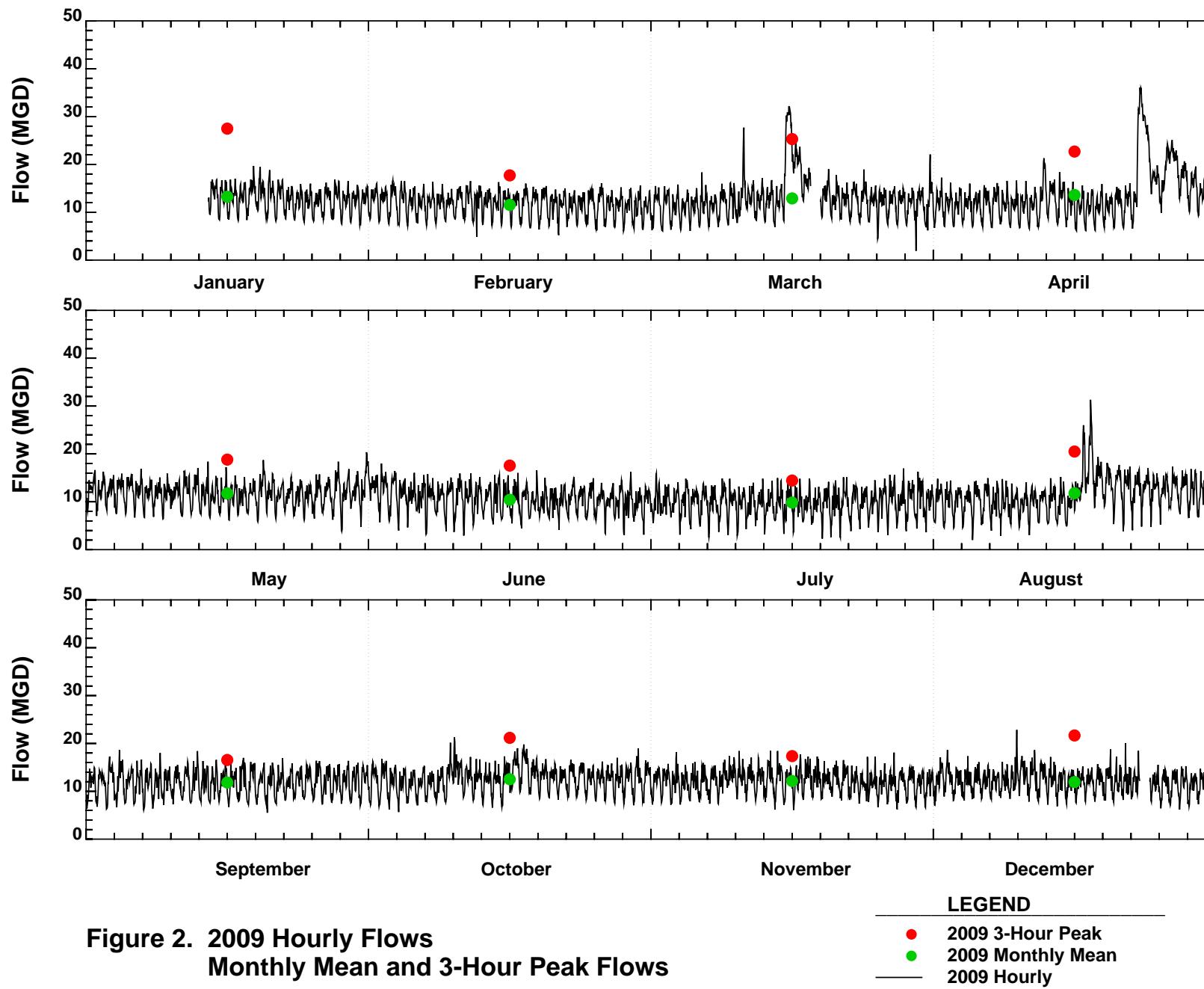
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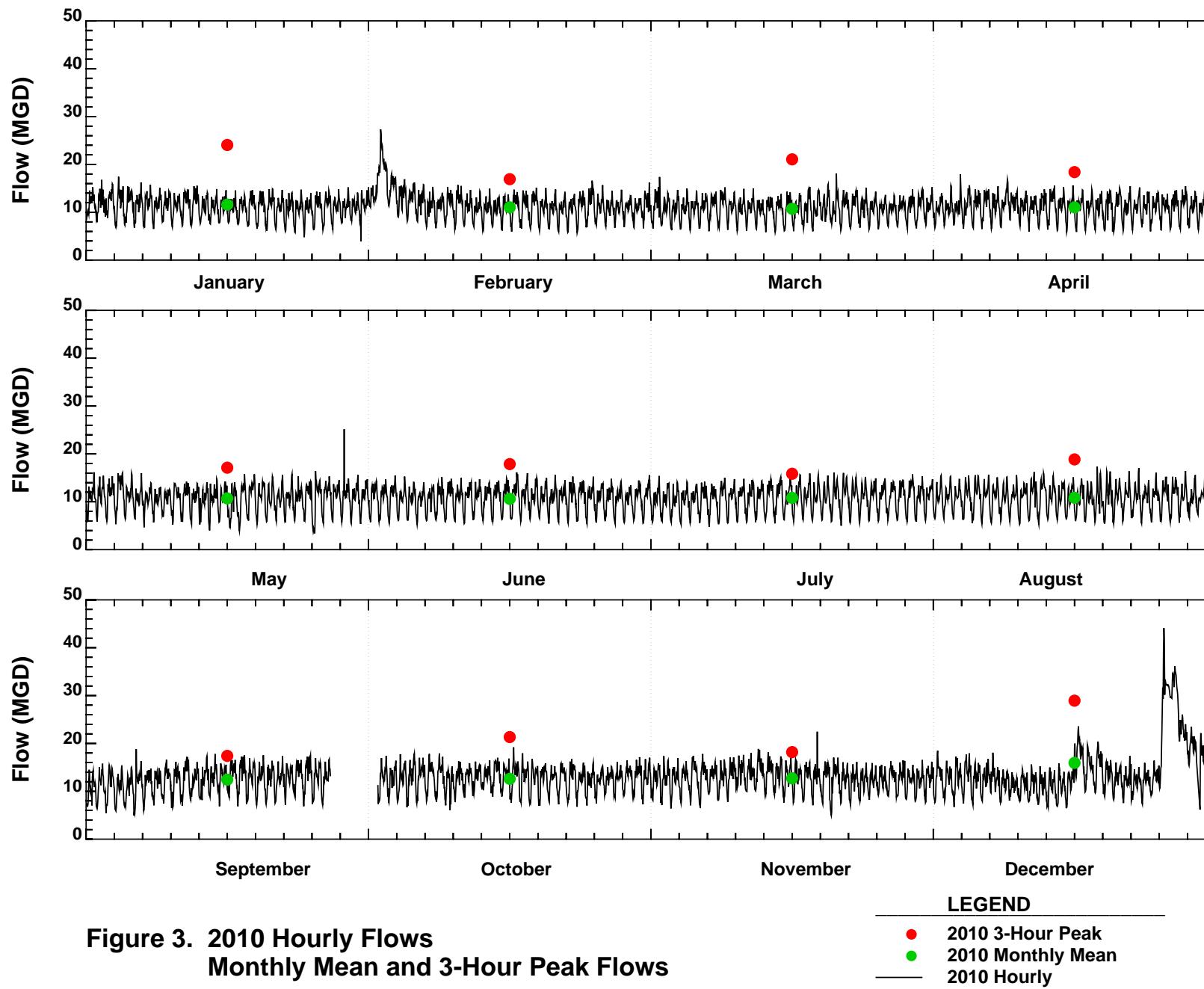


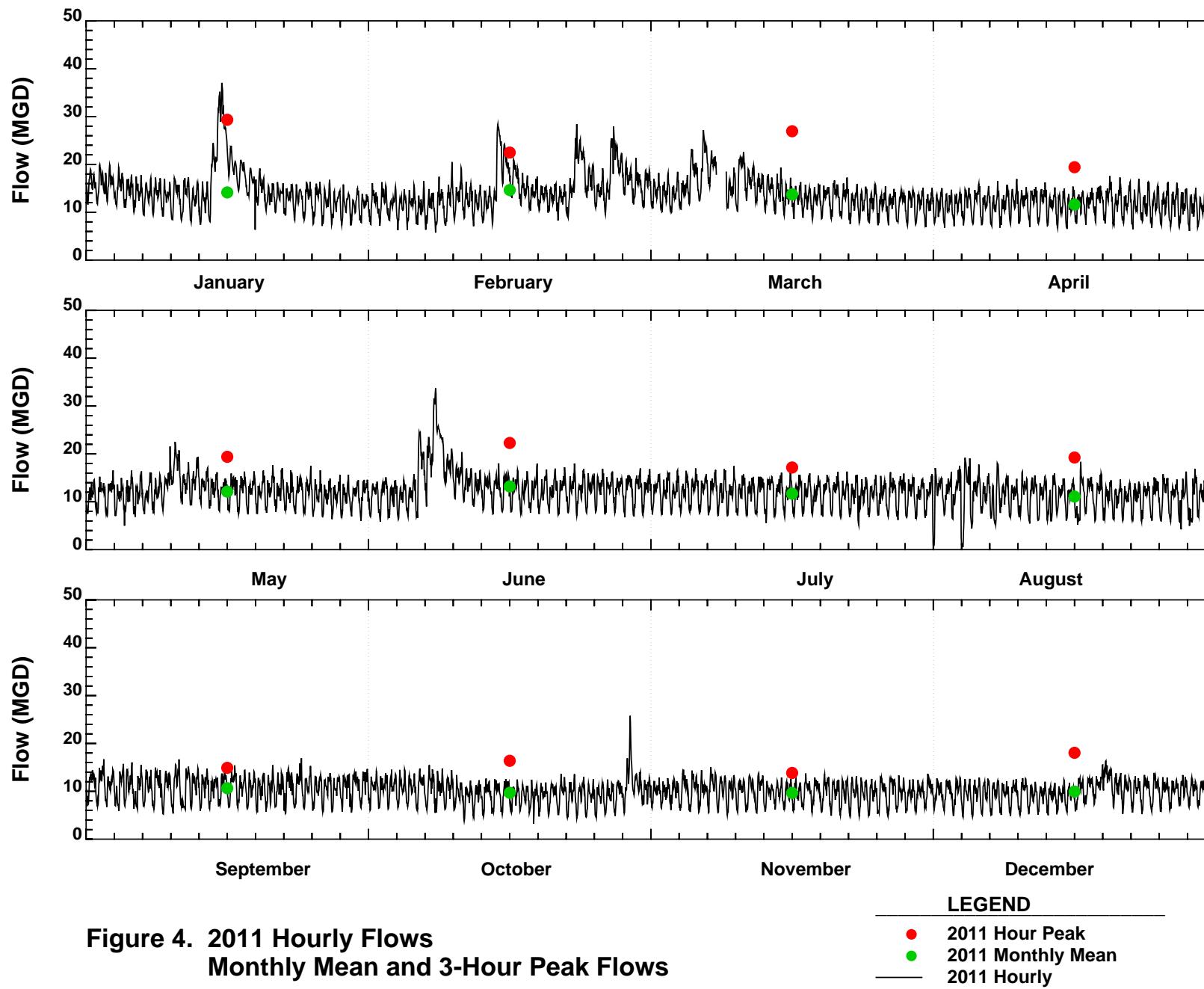
**Figure 1. 2008 Hourly Flows
Monthly Mean and 3-Hour Peak Flows**

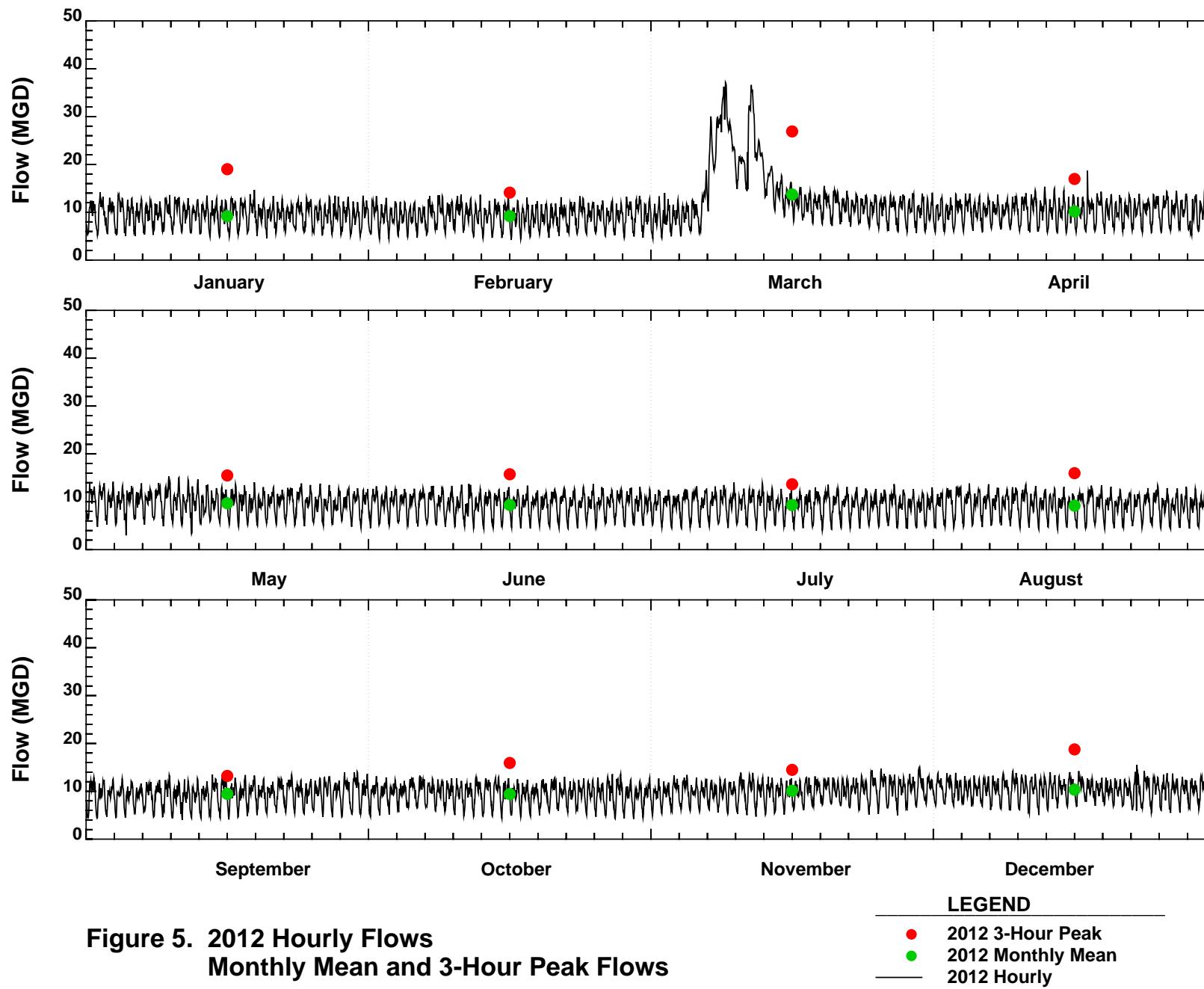
LEGEND

- 2008 3-Hour Peak
- 2008 Mean
- 2008 Hourly

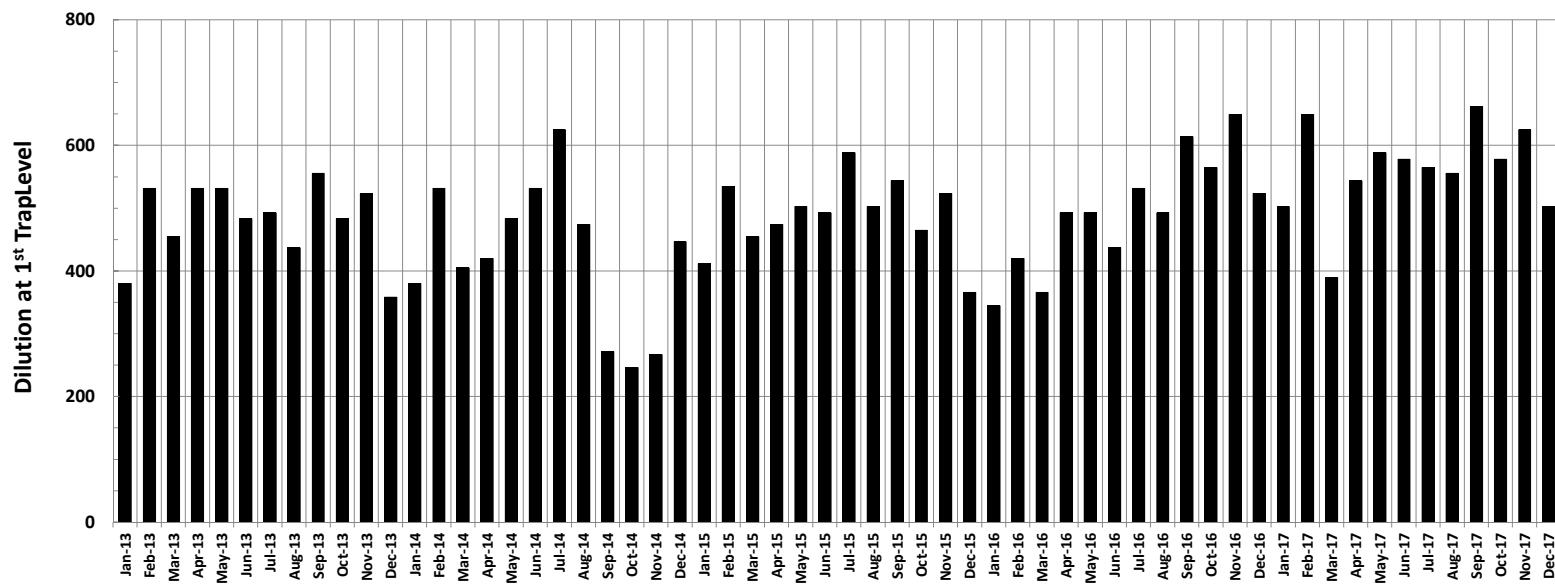








Dilutions (with Die-off) at Trap Level (3-Hour Peak Flow)



Dilutions (no Die-off) at Trap Level (3-Hour Peak Flow)

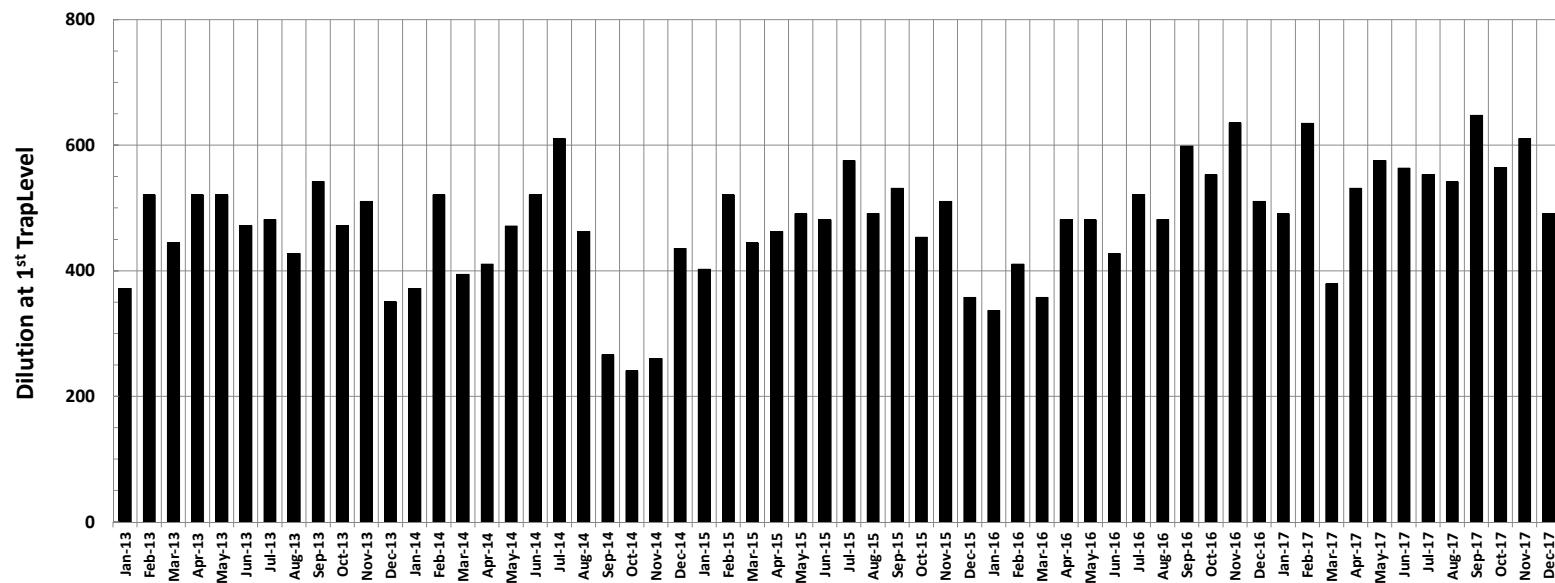


Figure 6. Kailua RWWTP Effluent Dilution at Trap Level or Surface Hit

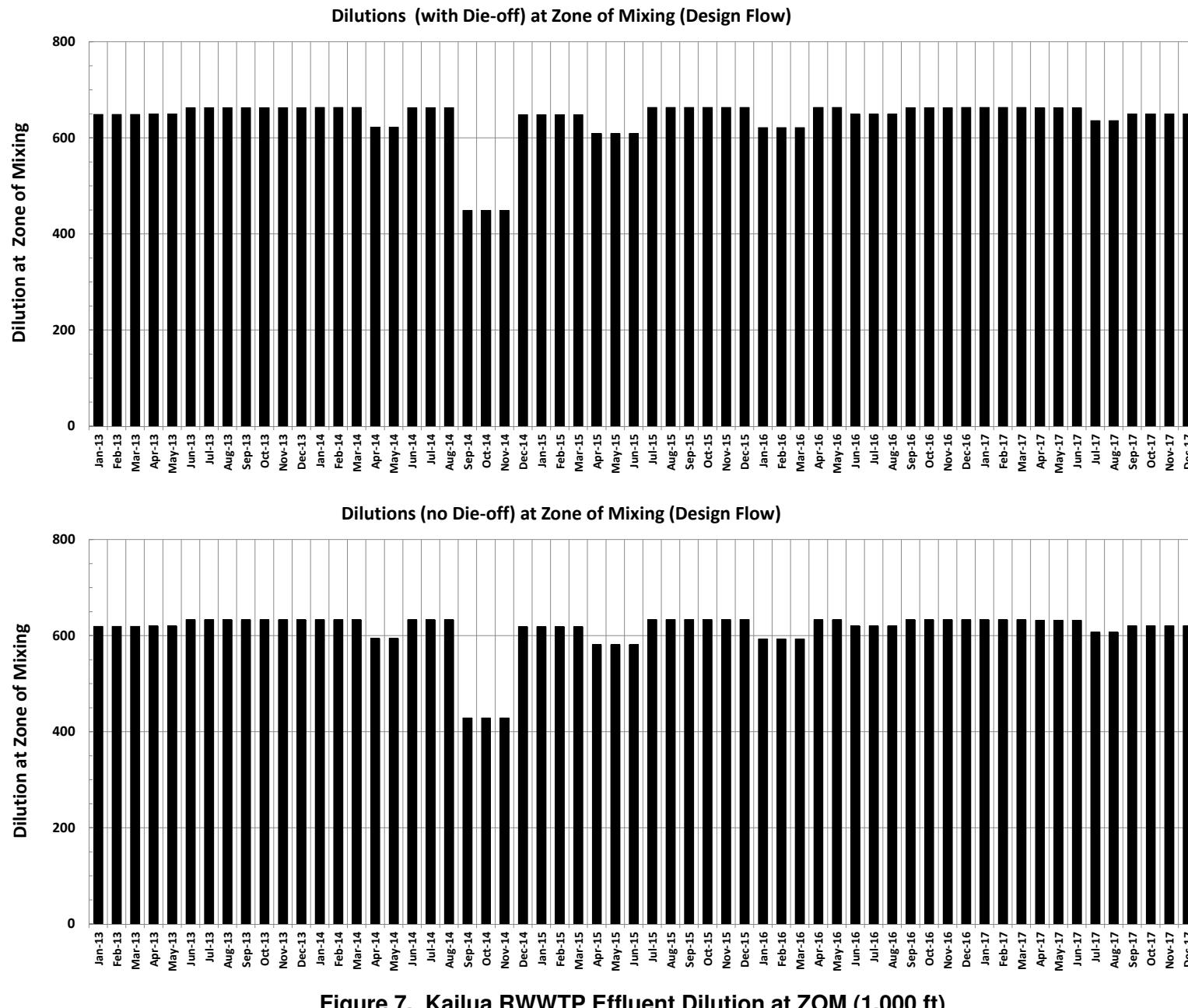


Figure 7. Kailua RWWTP Effluent Dilution at ZOM (1,000 ft)

ATTACHMENT 1

**MONTHLY EFFLUENT FLOW AND TEMPERATURE
USED FOR MODEL INPUTS**

Table A1-1. Effluent Flows and Temperature used for Model Inputs

Year	Month	Design Flow (MGD)	Projected Monthly Peak Flow	Effluent Temperature (°C)
2013	January	15.25	26.50	28.04
2013	February	15.25	17.40	28.04
2013	March	15.25	21.12	28.04
2013	April	15.25	17.36	28.04
2013	May	15.25	17.14	28.04
2013	June	15.25	19.98	28.04
2013	July	15.25	19.35	28.04
2013	August	15.25	22.39	28.04
2013	September	15.25	16.59	28.04
2013	October	15.25	19.89	28.04
2013	November	15.25	17.95	28.04
2013	December	15.25	29.61	28.04
2014	January	15.25	27.49	28.04
2014	February	15.25	17.72	28.04
2014	March	15.25	25.30	28.04
2014	April	15.25	22.70	28.04
2014	May	15.25	18.81	28.04
2014	June	15.25	17.57	28.04
2014	July	15.25	14.45	28.04
2014	August	15.25	20.50	28.04
2014	September	15.25	16.55	28.04
2014	October	15.25	21.18	28.04
2014	November	15.25	17.37	28.04
2014	December	15.25	21.67	28.04
2015	January	15.25	24.07	28.04
2015	February	15.25	16.92	28.04
2015	March	15.25	21.06	28.04
2015	April	15.25	18.40	28.04
2015	May	15.25	17.14	28.04
2015	June	15.25	17.89	28.04

Table A1-1. Effluent Flows and Temperature used for Model Inputs

Year	Month	Design Flow (MGD)	Projected Monthly Peak Flow	Effluent Temperature (°C)
2015	July	15.25	15.87	28.04
2015	August	15.25	18.85	28.04
2015	September	15.25	17.40	28.04
2015	October	15.25	21.33	28.04
2015	November	15.25	18.19	28.04
2015	December	15.25	28.94	28.04
2016	January	15.25	29.34	28.04
2016	February	15.25	22.49	28.04
2016	March	15.25	26.95	28.04
2016	April	15.25	19.42	28.04
2016	May	15.25	19.41	28.04
2016	June	15.25	22.29	28.04
2016	July	15.25	17.18	28.04
2016	August	15.25	19.26	28.04
2016	September	15.25	14.90	28.04
2016	October	15.25	16.39	28.04
2016	November	15.25	13.83	28.04
2016	December	15.25	18.04	28.04
2017	January	15.25	19.01	28.04
2017	February	15.25	14.10	28.04
2017	March	15.25	26.91	28.04
2017	April	15.25	16.96	28.04
2017	May	15.25	15.50	28.04
2017	June	15.25	15.75	28.04
2017	July	15.25	13.67	28.04
2017	August	15.25	15.98	28.04
2017	September	15.25	13.22	28.04
2017	October	15.25	15.92	28.04
2017	November	15.25	14.49	28.04
2017	December	15.25	18.75	28.04

ATTACHMENT 2

**VERTICAL TEMPERATURE AND SALINITY
USED FOR MODEL INPUTS**

Table A2-1. 2013 Vertical Temperature Profiles used for Model Inputs (based on CCH M3 CTD monitoring data)

Depth (m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	24.09	24.09	24.09	23.36	23.36	25.92	25.92	25.92	25.71	25.71	25.71	25.71
2	24.09	24.09	24.09	23.35	23.35	25.87	25.87	25.87	25.71	25.71	25.71	25.71
4	24.09	24.09	24.09	23.34	23.34	25.61	25.61	25.61	25.72	25.72	25.72	25.72
6	24.09	24.09	24.09	23.33	23.33	25.53	25.53	25.53	25.72	25.72	25.72	25.72
8	24.09	24.09	24.09	23.33	23.33	25.46	25.46	25.46	25.73	25.73	25.73	25.73
10	24.09	24.09	24.09	23.32	23.32	25.43	25.43	25.43	25.72	25.72	25.72	25.72
12	24.08	24.08	24.08	23.27	23.27	25.41	25.41	25.41	25.72	25.72	25.72	25.72
14	24.07	24.07	24.07	23.26	23.26	25.41	25.41	25.41	25.71	25.71	25.71	25.71
16	24.07	24.07	24.07	23.27	23.27	25.39	25.39	25.39	25.72	25.72	25.72	25.72
18	24.04	24.04	24.04	23.27	23.27	25.38	25.38	25.38	25.71	25.71	25.71	25.71
20	24.03	24.03	24.03	23.27	23.27	25.38	25.38	25.38	25.71	25.71	25.71	25.71
22	24.02	24.02	24.02	23.27	23.27	25.38	25.38	25.38	25.71	25.71	25.71	25.71
24	24.01	24.01	24.01	23.26	23.26	25.38	25.38	25.38	25.71	25.71	25.71	25.71
26	23.96	23.96	23.96	23.26	23.26	25.38	25.38	25.38	25.71	25.71	25.71	25.71
28	23.91	23.91	23.91	23.18	23.18	25.38	25.38	25.38	25.71	25.71	25.71	25.71
30	23.87	23.87	23.87	23.18	23.18	25.38	25.38	25.38	25.71	25.71	25.71	25.71
32	23.73	23.73	23.73	23.17	23.17	25.38	25.38	25.38	25.62	25.62	25.62	25.62
33	23.72	23.72	23.72	23.16	23.16	25.38	25.38	25.38	25.57	25.57	25.57	25.57
Delta T	0.37	0.37	0.37	0.19	0.19	0.53	0.53	0.53	0.14	0.14	0.14	0.14

Note: Delta T is the temperature difference between the surface and bottom.

Table A2-2. 2014 Vertical Temperature Profiles used for Model Inputs (based on CCH M3 CTD monitoring data)

Depth (m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	22.84	22.84	22.84	23.24	23.24	25.44	25.44	25.44	26.41	26.41	26.41	23.74
2	22.85	22.85	22.85	23.24	23.24	25.44	25.44	25.44	26.42	26.42	26.42	23.74
4	22.86	22.86	22.86	23.24	23.24	25.44	25.44	25.44	26.42	26.42	26.42	23.74
6	22.86	22.86	22.86	23.24	23.24	25.41	25.41	25.41	26.42	26.42	26.42	23.74
8	22.86	22.86	22.86	23.24	23.24	25.40	25.40	25.40	26.42	26.42	26.42	23.75
10	22.86	22.86	22.86	23.23	23.23	25.40	25.40	25.40	26.41	26.41	26.41	23.75
12	22.86	22.86	22.86	23.24	23.24	25.40	25.40	25.40	26.41	26.41	26.41	23.77
14	22.86	22.86	22.86	23.23	23.23	25.40	25.40	25.40	26.41	26.41	26.41	23.77
16	22.86	22.86	22.86	23.23	23.23	25.39	25.39	25.39	26.37	26.37	26.37	23.74
18	22.86	22.86	22.86	23.23	23.23	25.37	25.37	25.37	26.16	26.16	26.16	23.74
20	22.86	22.86	22.86	23.23	23.23	25.38	25.38	25.38	26.07	26.07	26.07	23.73
22	22.86	22.86	22.86	23.20	23.20	25.36	25.36	25.36	25.96	25.96	25.96	23.72
24	22.86	22.86	22.86	23.14	23.14	25.36	25.36	25.36	25.94	25.94	25.94	23.69
26	22.86	22.86	22.86	23.10	23.10	25.35	25.35	25.35	25.88	25.88	25.88	23.65
28	22.88	22.88	22.88	22.98	22.98	25.35	25.35	25.35	25.87	25.87	25.87	23.59
30	22.88	22.88	22.88	22.95	22.95	25.32	25.32	25.32	25.86	25.86	25.86	23.27
32	22.88	22.88	22.88	22.94	22.94	25.26	25.26	25.26	25.85	25.85	25.85	23.19
33	22.88	22.88	22.88	22.90	22.90	25.17	25.17	25.17	25.85	25.85	25.85	23.18
Delta T	-0.04	-0.04	-0.04	0.34	0.34	0.26	0.26	0.26	0.56	0.56	0.56	0.56

Note: Delta T is the temperature difference between the surface and bottom.

Table A2-3. 2015 Vertical Temperature Profiles used for Model Inputs (based on CCH M3 CTD monitoring data)

Depth (m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	23.74	23.74	23.74	24.20	24.20	24.20	25.79	25.79	26.04	26.04	26.04	26.04
2	23.74	23.74	23.74	24.20	24.20	24.20	25.79	25.79	26.04	26.04	26.04	26.04
4	23.74	23.74	23.74	24.21	24.21	24.21	25.79	25.79	26.04	26.04	26.04	26.04
6	23.74	23.74	23.74	24.20	24.20	24.20	25.79	25.79	26.04	26.04	26.04	26.04
8	23.75	23.75	23.75	24.16	24.16	24.16	25.79	25.79	26.04	26.04	26.04	26.04
10	23.75	23.75	23.75	24.09	24.09	24.09	25.79	25.79	26.04	26.04	26.04	26.04
12	23.77	23.77	23.77	24.06	24.06	24.06	25.79	25.79	26.04	26.04	26.04	26.04
14	23.77	23.77	23.77	24.05	24.05	24.05	25.79	25.79	26.04	26.04	26.04	26.04
16	23.74	23.74	23.74	24.05	24.05	24.05	25.79	25.79	26.04	26.04	26.04	26.04
18	23.74	23.74	23.74	24.05	24.05	24.05	25.79	25.79	26.04	26.04	26.04	26.04
20	23.73	23.73	23.73	24.04	24.04	24.04	25.75	25.75	26.04	26.04	26.04	26.04
22	23.72	23.72	23.72	24.01	24.01	24.01	25.74	25.74	26.04	26.04	26.04	26.04
24	23.69	23.69	23.69	23.93	23.93	23.93	25.73	25.73	26.04	26.04	26.04	26.04
26	23.65	23.65	23.65	23.77	23.77	23.77	25.72	25.72	26.03	26.03	26.03	26.03
28	23.59	23.59	23.59	23.74	23.74	23.74	25.72	25.72	26.03	26.03	26.03	26.03
30	23.27	23.27	23.27	23.74	23.74	23.74	25.71	25.71	26.02	26.02	26.02	26.02
32	23.19	23.19	23.19	23.77	23.77	23.77	25.70	25.70	25.96	25.96	25.96	25.96
33	23.18	23.18	23.18	23.79	23.79	23.79	25.69	25.69	25.91	25.91	25.91	25.91
Delta T	0.56	0.56	0.56	0.41	0.41	0.41	0.10	0.10	0.13	0.13	0.13	0.13

Note: Delta T is the temperature difference between the surface and bottom.

Table A2-4. 2016 Vertical Temperature Profiles used for Model Inputs (based on CCH M3 CTD monitoring data)

Depth (m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	24.64	24.64	24.64	24.42	24.42	25.72	25.72	25.72	26.04	26.04	26.04	23.70
2	24.63	24.63	24.63	24.43	24.43	25.69	25.69	25.69	26.01	26.01	26.01	23.69
4	24.64	24.64	24.64	24.43	24.43	25.66	25.66	25.66	26.02	26.02	26.02	23.71
6	24.63	24.63	24.63	24.43	24.43	25.66	25.66	25.66	26.03	26.03	26.03	23.72
8	24.63	24.63	24.63	24.43	24.43	25.65	25.65	25.65	26.03	26.03	26.03	23.74
10	24.63	24.63	24.63	24.43	24.43	25.64	25.64	25.64	26.04	26.04	26.04	23.73
12	24.63	24.63	24.63	24.43	24.43	25.63	25.63	25.63	26.04	26.04	26.04	23.74
14	24.64	24.64	24.64	24.43	24.43	25.62	25.62	25.62	26.04	26.04	26.04	23.73
16	24.63	24.63	24.63	24.43	24.43	25.59	25.59	25.59	26.04	26.04	26.04	23.73
18	24.63	24.63	24.63	24.43	24.43	25.59	25.59	25.59	26.04	26.04	26.04	23.73
20	24.64	24.64	24.64	24.43	24.43	25.61	25.61	25.61	26.04	26.04	26.04	23.73
22	24.64	24.64	24.64	24.43	24.43	25.60	25.60	25.60	26.04	26.04	26.04	23.73
24	24.61	24.61	24.61	24.43	24.43	25.58	25.58	25.58	26.03	26.03	26.03	23.73
26	24.51	24.51	24.51	24.43	24.43	25.56	25.56	25.56	26.02	26.02	26.02	23.73
28	24.48	24.48	24.48	24.43	24.43	25.55	25.55	25.55	26.02	26.02	26.02	23.73
30	24.35	24.35	24.35	24.42	24.42	25.55	25.55	25.55	25.97	25.97	25.97	23.73
32	24.24	24.24	24.24	24.38	24.38	25.55	25.55	25.55	25.93	25.93	25.93	23.73
33	24.19	24.19	24.19	24.37	24.37	25.55	25.55	25.55	25.89	25.89	25.89	23.73
Delta T	0.45	0.45	0.45	0.06	0.06	0.17	0.17	0.17	0.15	0.15	0.15	-0.03

Note: Delta T is the temperature difference between the surface and bottom.

Table A2-5. 2017 Vertical Temperature Profiles used for Model Inputs (based on CCH M3 CTD monitoring data)

Depth (m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	23.70	23.70	23.70	24.80	24.80	24.80	24.61	24.61	25.49	25.49	25.49	25.49
2	23.69	23.69	23.69	24.81	24.81	24.81	24.61	24.61	25.49	25.49	25.49	25.49
4	23.71	23.71	23.71	24.81	24.81	24.81	24.61	24.61	25.48	25.48	25.48	25.48
6	23.72	23.72	23.72	24.81	24.81	24.81	24.61	24.61	25.48	25.48	25.48	25.48
8	23.74	23.74	23.74	24.80	24.80	24.80	24.61	24.61	25.48	25.48	25.48	25.48
10	23.73	23.73	23.73	24.80	24.80	24.80	24.61	24.61	25.47	25.47	25.47	25.47
12	23.74	23.74	23.74	24.80	24.80	24.80	24.61	24.61	25.48	25.48	25.48	25.48
14	23.73	23.73	23.73	24.80	24.80	24.80	24.58	24.58	25.49	25.49	25.49	25.49
16	23.73	23.73	23.73	24.80	24.80	24.80	24.57	24.57	25.48	25.48	25.48	25.48
18	23.73	23.73	23.73	24.80	24.80	24.80	24.56	24.56	25.48	25.48	25.48	25.48
20	23.73	23.73	23.73	24.80	24.80	24.80	24.55	24.55	25.47	25.47	25.47	25.47
22	23.73	23.73	23.73	24.80	24.80	24.80	24.54	24.54	25.46	25.46	25.46	25.46
24	23.73	23.73	23.73	24.80	24.80	24.80	24.53	24.53	25.46	25.46	25.46	25.46
26	23.73	23.73	23.73	24.76	24.76	24.76	24.50	24.50	25.46	25.46	25.46	25.46
28	23.73	23.73	23.73	24.67	24.67	24.67	24.44	24.44	25.46	25.46	25.46	25.46
30	23.73	23.73	23.73	24.65	24.65	24.65	24.34	24.34	25.46	25.46	25.46	25.46
32	23.73	23.73	23.73	24.55	24.55	24.55	24.33	24.33	25.46	25.46	25.46	25.46
33	23.73	23.73	23.73	24.52	24.52	24.52	24.33	24.33	25.46	25.46	25.46	25.46
Delta T	-0.03	-0.03	-0.03	0.29	0.29	0.29	0.28	0.28	0.03	0.03	0.03	0.03
0	23.70	23.70	23.70	24.80	24.80	24.80	24.61	24.61	25.49	25.49	25.49	25.49
2	23.69	23.69	23.69	24.81	24.81	24.81	24.61	24.61	25.49	25.49	25.49	25.49

Note: Delta T is the temperature difference between the surface and bottom.

Table A2-6. 2013 Vertical Salinity Profiles used for Model Inputs (based on CCH M3 CTD monitoring data)

Depth (m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	35.08	35.08	35.08	35.17	35.17	34.95	34.95	34.95	35.10	35.10	35.10	35.10
2	35.08	35.08	35.08	35.18	35.18	34.90	34.90	34.90	35.11	35.11	35.11	35.11
4	35.08	35.08	35.08	35.18	35.18	34.94	34.94	34.94	35.10	35.10	35.10	35.10
6	35.07	35.07	35.07	35.19	35.19	34.95	34.95	34.95	35.10	35.10	35.10	35.10
8	35.07	35.07	35.07	35.19	35.19	34.94	34.94	34.94	35.10	35.10	35.10	35.10
10	35.07	35.07	35.07	35.20	35.20	34.96	34.96	34.96	35.10	35.10	35.10	35.10
12	35.07	35.07	35.07	35.21	35.21	34.96	34.96	34.96	35.11	35.11	35.11	35.11
14	35.07	35.07	35.07	35.22	35.22	34.96	34.96	34.96	35.11	35.11	35.11	35.11
16	35.07	35.07	35.07	35.22	35.22	34.95	34.95	34.95	35.11	35.11	35.11	35.11
18	35.06	35.06	35.06	35.21	35.21	34.96	34.96	34.96	35.11	35.11	35.11	35.11
20	35.06	35.06	35.06	35.21	35.21	34.96	34.96	34.96	35.11	35.11	35.11	35.11
22	35.07	35.07	35.07	35.21	35.21	34.95	34.95	34.95	35.11	35.11	35.11	35.11
24	35.05	35.05	35.05	35.22	35.22	34.96	34.96	34.96	35.11	35.11	35.11	35.11
26	35.07	35.07	35.07	35.20	35.20	34.96	34.96	34.96	35.12	35.12	35.12	35.12
28	35.06	35.06	35.06	35.23	35.23	34.96	34.96	34.96	35.12	35.12	35.12	35.12
30	35.03	35.03	35.03	35.22	35.22	34.95	34.95	34.95	35.11	35.11	35.11	35.11
32	35.07	35.07	35.07	35.22	35.22	34.96	34.96	34.96	35.11	35.11	35.11	35.11
33	35.06	35.06	35.06	35.23	35.23	34.95	34.95	34.95	35.11	35.11	35.11	35.11
Delta S	-0.02	-0.02	-0.02	0.05	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Note: Delta S is the salinity difference between the surface and bottom.

Table A2-7. 2014 Vertical Salinity Profiles used for Model Inputs (based on CCH M3 CTD monitoring data)

Depth (m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	35.19	35.19	35.19	35.12	35.12	35.15	35.15	35.15	35.19	35.19	35.19	35.32
2	35.19	35.19	35.19	35.12	35.12	35.15	35.15	35.15	35.19	35.19	35.19	35.31
4	35.19	35.19	35.19	35.12	35.12	35.15	35.15	35.15	35.18	35.18	35.18	35.31
6	35.19	35.19	35.19	35.12	35.12	35.15	35.15	35.15	35.18	35.18	35.18	35.32
8	35.19	35.19	35.19	35.12	35.12	35.15	35.15	35.15	35.18	35.18	35.18	35.33
10	35.19	35.19	35.19	35.12	35.12	35.15	35.15	35.15	35.19	35.19	35.19	35.32
12	35.19	35.19	35.19	35.12	35.12	35.15	35.15	35.15	35.18	35.18	35.18	35.31
14	35.19	35.19	35.19	35.12	35.12	35.15	35.15	35.15	35.19	35.19	35.19	35.30
16	35.19	35.19	35.19	35.12	35.12	35.15	35.15	35.15	35.12	35.12	35.12	35.33
18	35.19	35.19	35.19	35.12	35.12	35.16	35.16	35.16	35.16	35.16	35.16	35.31
20	35.19	35.19	35.19	35.12	35.12	35.15	35.15	35.15	35.15	35.15	35.15	35.31
22	35.20	35.20	35.20	35.11	35.11	35.15	35.15	35.15	35.21	35.21	35.21	35.31
24	35.19	35.19	35.19	35.13	35.13	35.15	35.15	35.15	35.19	35.19	35.19	35.31
26	35.20	35.20	35.20	35.11	35.11	35.15	35.15	35.15	35.21	35.21	35.21	35.31
28	35.20	35.20	35.20	35.16	35.16	35.15	35.15	35.15	35.21	35.21	35.21	35.24
30	35.20	35.20	35.20	35.17	35.17	35.15	35.15	35.15	35.21	35.21	35.21	35.29
32	35.20	35.20	35.20	35.17	35.17	35.11	35.11	35.11	35.21	35.21	35.21	35.32
33	35.20	35.20	35.20	35.15	35.15	35.13	35.13	35.13	35.21	35.21	35.21	35.33
Delta S	0.00	0.00	0.00	0.03	0.03	-0.02	-0.02	-0.02	0.03	0.03	0.03	0.01

Note: Delta S is the salinity difference between the surface and bottom.

Table A2-8. 2015 Vertical Salinity Profiles used for Model Inputs (based on CCH M3 CTD monitoring data)

Depth (m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	35.32	35.32	35.32	35.16	35.16	35.16	35.10	35.10	35.39	35.39	35.39	35.39
2	35.31	35.31	35.31	35.16	35.16	35.16	35.10	35.10	35.39	35.39	35.39	35.39
4	35.31	35.31	35.31	35.15	35.15	35.15	35.10	35.10	35.39	35.39	35.39	35.39
6	35.32	35.32	35.32	35.15	35.15	35.15	35.10	35.10	35.39	35.39	35.39	35.39
8	35.33	35.33	35.33	35.16	35.16	35.16	35.09	35.09	35.39	35.39	35.39	35.39
10	35.32	35.32	35.32	35.17	35.17	35.17	35.10	35.10	35.39	35.39	35.39	35.39
12	35.31	35.31	35.31	35.19	35.19	35.19	35.09	35.09	35.39	35.39	35.39	35.39
14	35.30	35.30	35.30	35.19	35.19	35.19	35.09	35.09	35.39	35.39	35.39	35.39
16	35.33	35.33	35.33	35.19	35.19	35.19	35.10	35.10	35.39	35.39	35.39	35.39
18	35.31	35.31	35.31	35.19	35.19	35.19	35.09	35.09	35.39	35.39	35.39	35.39
20	35.31	35.31	35.31	35.19	35.19	35.19	35.09	35.09	35.39	35.39	35.39	35.39
22	35.31	35.31	35.31	35.19	35.19	35.19	35.07	35.07	35.39	35.39	35.39	35.39
24	35.31	35.31	35.31	35.18	35.18	35.18	35.09	35.09	35.39	35.39	35.39	35.39
26	35.31	35.31	35.31	35.22	35.22	35.22	35.05	35.05	35.39	35.39	35.39	35.39
28	35.24	35.24	35.24	35.24	35.24	35.24	35.06	35.06	35.39	35.39	35.39	35.39
30	35.29	35.29	35.29	35.24	35.24	35.24	35.08	35.08	35.38	35.38	35.38	35.38
32	35.32	35.32	35.32	35.24	35.24	35.24	35.08	35.08	35.37	35.37	35.37	35.37
33	35.33	35.33	35.33	35.23	35.23	35.23	35.06	35.06	35.37	35.37	35.37	35.37
Delta S	0.01	0.01	0.01	0.08	0.08	0.08	-0.04	-0.04	-0.02	-0.02	-0.02	-0.02

Note: Delta S is the salinity difference between the surface and bottom.

Table A2-9. 2016 Vertical Salinity Profiles used for Model Inputs (based on CCH M3 CTD monitoring data)

Depth (m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	35.14	35.14	35.14	35.18	35.18	34.91	34.91	34.91	35.13	35.13	35.13	35.22
2	35.14	35.14	35.14	35.18	35.18	34.91	34.91	34.91	35.11	35.11	35.11	35.23
4	35.14	35.14	35.14	35.18	35.18	34.92	34.92	34.92	35.11	35.11	35.11	35.23
6	35.14	35.14	35.14	35.18	35.18	34.92	34.92	34.92	35.13	35.13	35.13	35.24
8	35.14	35.14	35.14	35.18	35.18	34.93	34.93	34.93	35.13	35.13	35.13	35.24
10	35.14	35.14	35.14	35.18	35.18	34.93	34.93	34.93	35.13	35.13	35.13	35.24
12	35.14	35.14	35.14	35.18	35.18	34.93	34.93	34.93	35.13	35.13	35.13	35.24
14	35.14	35.14	35.14	35.18	35.18	34.93	34.93	34.93	35.13	35.13	35.13	35.24
16	35.14	35.14	35.14	35.18	35.18	34.94	34.94	34.94	35.13	35.13	35.13	35.24
18	35.14	35.14	35.14	35.18	35.18	34.94	34.94	34.94	35.13	35.13	35.13	35.24
20	35.14	35.14	35.14	35.18	35.18	34.95	34.95	34.95	35.13	35.13	35.13	35.24
22	35.14	35.14	35.14	35.18	35.18	34.93	34.93	34.93	35.13	35.13	35.13	35.24
24	35.16	35.16	35.16	35.18	35.18	34.94	34.94	34.94	35.13	35.13	35.13	35.24
26	35.19	35.19	35.19	35.18	35.18	34.94	34.94	34.94	35.13	35.13	35.13	35.24
28	35.20	35.20	35.20	35.18	35.18	34.95	34.95	34.95	35.12	35.12	35.12	35.24
30	35.20	35.20	35.20	35.18	35.18	34.95	34.95	34.95	35.12	35.12	35.12	35.24
32	35.21	35.21	35.21	35.17	35.17	34.95	34.95	34.95	35.11	35.11	35.11	35.24
33	35.21	35.21	35.21	35.17	35.17	34.94	34.94	34.94	35.12	35.12	35.12	35.24
Delta S	0.07	0.07	0.07	-0.01	-0.01	0.04	0.04	0.04	-0.01	-0.01	-0.01	0.02

Note: Delta S is the salinity difference between the surface and bottom.

Table A2-10. 2017 Vertical Salinity Profiles used for Model Inputs (based on CCH M3 CTD monitoring data)

Depth (m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	35.14	35.14	35.14	35.18	35.18	34.91	34.91	34.91	35.13	35.13	35.13	35.22
2	35.14	35.14	35.14	35.18	35.18	34.91	34.91	34.91	35.11	35.11	35.11	35.23
4	35.14	35.14	35.14	35.18	35.18	34.92	34.92	34.92	35.11	35.11	35.11	35.23
6	35.14	35.14	35.14	35.18	35.18	34.92	34.92	34.92	35.13	35.13	35.13	35.24
8	35.14	35.14	35.14	35.18	35.18	34.93	34.93	34.93	35.13	35.13	35.13	35.24
10	35.14	35.14	35.14	35.18	35.18	34.93	34.93	34.93	35.13	35.13	35.13	35.24
12	35.14	35.14	35.14	35.18	35.18	34.93	34.93	34.93	35.13	35.13	35.13	35.24
14	35.14	35.14	35.14	35.18	35.18	34.93	34.93	34.93	35.13	35.13	35.13	35.24
16	35.14	35.14	35.14	35.18	35.18	34.94	34.94	34.94	35.13	35.13	35.13	35.24
18	35.14	35.14	35.14	35.18	35.18	34.94	34.94	34.94	35.13	35.13	35.13	35.24
20	35.14	35.14	35.14	35.18	35.18	34.95	34.95	34.95	35.13	35.13	35.13	35.24
22	35.14	35.14	35.14	35.18	35.18	34.93	34.93	34.93	35.13	35.13	35.13	35.24
24	35.16	35.16	35.16	35.18	35.18	34.94	34.94	34.94	35.13	35.13	35.13	35.24
26	35.19	35.19	35.19	35.18	35.18	34.94	34.94	34.94	35.13	35.13	35.13	35.24
28	35.20	35.20	35.20	35.18	35.18	34.95	34.95	34.95	35.12	35.12	35.12	35.24
30	35.20	35.20	35.20	35.18	35.18	34.95	34.95	34.95	35.12	35.12	35.12	35.24
32	35.21	35.21	35.21	35.17	35.17	34.95	34.95	34.95	35.11	35.11	35.11	35.24
33	35.21	35.21	35.21	35.17	35.17	34.94	34.94	34.94	35.12	35.12	35.12	35.24
Delta S	0.07	0.07	0.07	-0.01	-0.01	0.04	0.04	0.04	-0.01	-0.01	-0.01	0.02

Note: Delta S is the salinity difference between the surface and bottom.

ATTACHMENT 3

KAILUA WWTP EFFLUENT DILUTION AND DISTANCE AT TRAP DEPTH OR SURFACE HIT

Table A3-1. Kailua WWTP Effluent Dilution and Distance at Trap Depth or Surface Hit

Year	Month	Projected 3-Hour Peak Flow			
		Trap Depth (ft)	Dilution (no die-off)	Dilution (with die-off)	Distance (ft)
2013	January	18.05	372.0	380.2	69.64
2013	February	22.25	520.9	531.9	72.29
2013	March	20.14	444.6	454.5	70.53
2013	April	21.55	520.7	531.9	69.82
2013	May	22.47	520.7	531.9	69.29
2013	June	18.29	472.0	483.1	68.46
2013	July	19.06	481.4	492.6	68.29
2013	August	17.99	427.5	436.7	67.46
2013	September	20.94	542.2	555.6	69.83
2013	October	18.38	472.0	483.1	69.01
2013	November	19.68	510.9	523.6	69.48
2013	December	14.01	350.7	358.4	69.02
2014	January	13.60	371.8	380.2	67.01
2014	February	18.06	520.6	531.9	68.08
2014	March	14.57	394.6	404.9	66.78
2014	April	24.28	410.6	420.2	73.98
2014	May	28.23	471.6	483.1	75.44
2014	June	19.83	521.0	531.9	69.68
2014	July	22.39	610.5	625.0	71.43
2014	August	17.75	462.7	473.9	68.96
2014	September	64.69	265.8	271.7	37.55
2014	October	60.53	240.7	246.3	40.82

Table A3-1. Kailua WWTP Effluent Dilution and Distance at Trap Depth or Surface Hit

Year	Month	Projected 3-Hour Peak Flow			
		Trap Depth (ft)	Dilution (no die-off)	Dilution (with die-off)	Distance (ft)
2014	November	63.88	260.6	266.7	38.14
2014	December	20.65	435.7	446.4	74.17
2015	January	19.14	402.5	411.5	73.85
2015	February	25.85	520.7	534.8	74.84
2015	March	21.27	444.4	454.5	74.16
2015	April	35.64	462.5	473.9	75.08
2015	May	37.21	490.8	502.5	76.72
2015	June	35.27	481.1	492.6	77.19
2015	July	18.81	575.4	588.2	71.32
2015	August	18.62	491.1	502.5	68.79
2015	September	17.98	531.5	543.5	69.81
2015	October	15.59	453.6	465.1	68.82
2015	November	17.85	510.8	523.6	69.24
2015	December	13.45	357.7	366.3	68.31
2016	January	22.50	336.9	344.8	75.32
2016	February	26.94	410.7	420.2	76.83
2016	March	24.04	357.6	366.3	75.35
2016	April	17.69	481.2	492.6	67.90
2016	May	17.73	481.2	492.6	67.88
2016	June	19.21	427.5	436.7	69.13
2016	July	22.98	521.2	531.9	70.14
2016	August	20.56	481.5	492.6	70.12
2016	September	20.76	598.6	613.5	71.75

Table A3-1. Kailua WWTP Effluent Dilution and Distance at Trap Depth or Surface Hit

Year	Month	Projected 3-Hour Peak Flow			
		Trap Depth (ft)	Dilution (no die-off)	Dilution (with die-off)	Distance (ft)
2016	October	19.72	553.0	565.0	70.74
2016	November	21.88	635.3	649.4	72.45
2016	December	18.30	510.5	523.6	67.81
2017	January	17.58	490.7	502.5	67.61
2017	February	19.61	634.8	649.4	71.06
2017	March	13.39	379.3	389.1	67.41
2017	April	21.67	531.4	543.5	73.00
2017	May	22.39	575.2	588.2	74.49
2017	June	22.72	563.9	578.0	73.81
2017	July	36.40	552.8	565.0	66.49
2017	August	27.58	541.9	555.6	71.99
2017	September	25.38	647.9	662.3	70.91
2017	October	21.87	564.1	578.0	70.09
2017	November	22.96	610.6	625.0	71.09
2017	December	20.40	491.1	502.5	68.50
Minimum			240.7	246.3	
10 th Percentile			357.7	366.3	

ATTACHMENT 4

KAILUA WWTP EFFLUENT DILUTION AT ZOM

Table A4-1. Kailua WWTP Effluent Dilution and Distance at ZOM (1,000 ft)

Year	Month	Design Flow	
		Dilution (no die-off)	Dilution (with die-off)
2013	January	619.7	649.4
2013	February	619.7	649.4
2013	March	619.7	649.4
2013	April	620.1	649.9
2013	May	620.1	649.9
2013	June	633.1	663.1
2013	July	633.1	663.1
2013	August	633.1	663.1
2013	September	633.1	663.0
2013	October	633.1	663.0
2013	November	633.1	663.0
2013	December	633.1	663.0
2014	January	633.1	663.7
2014	February	633.1	663.7
2014	March	633.1	663.7
2014	April	594.0	622.6
2014	May	594.0	622.6
2014	June	632.9	663.0
2014	July	632.9	663.0
2014	August	632.9	663.0
2014	September	428.9	449.2
2014	October	428.9	449.2
2014	November	428.9	449.2
2014	December	618.7	648.5
2015	January	618.7	648.5
2015	February	618.7	648.5
2015	March	618.7	648.5
2015	April	581.4	609.4
2015	May	581.4	609.4
2015	June	581.4	609.4
2015	July	633.4	663.4

Table A4-1. Kailua WWTP Effluent Dilution and Distance at ZOM (1,000 ft)

Year	Month	Design Flow	
		Dilution (no die-off)	Dilution (with die-off)
2015	August	633.4	663.4
2015	September	633.4	663.5
2015	October	633.4	663.5
2015	November	633.4	663.5
2015	December	633.4	663.5
2016	January	593.2	621.6
2016	February	593.2	621.6
2016	March	593.2	621.6
2016	April	633.3	663.6
2016	May	633.3	663.6
2016	June	620.3	649.6
2016	July	620.3	649.6
2016	August	620.3	649.6
2016	September	633.3	663.3
2016	October	633.3	663.3
2016	November	633.3	663.3
2016	December	633.3	663.7
2017	January	633.3	663.7
2017	February	633.3	663.7
2017	March	633.3	663.7
2017	April	632.2	662.3
2017	May	632.2	662.3
2017	June	632.2	662.3
2017	July	607.2	636.3
2017	August	607.2	636.3
2017	September	620.7	650.1
2017	October	620.7	650.1
2017	November	620.7	650.1
2017	December	620.7	650.1
Average		612.6	641.8
Geometric Mean		610.6	639.8

ATTACHMENT 5

KAILUA WWTP PLUMES MODEL
INPUT/OUTPUT FILES
FOR
PEAK FLOW CASES

Kailua_min8.txt

/ windows UM3. 9/10/2013 10:42:20 AM
Case 1; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad			
m/s	Far-dir	m/s	Disprsn	deg	psu	c	kg/kg	s-1		
	m	deg	m0.67/s2							
0.07	0.0	0.07	0.0003	90.0	35.08	24.09	0.0	0.000312		
0.07	2.0	0.07	0.0003	90.0	35.08	24.09	0.0	0.000312		
0.07	4.0	0.07	0.0003	90.0	35.08	24.09	0.0	0.000312		
0.07	6.0	0.07	0.0003	90.0	35.07	24.09	0.0	0.000312		
0.07	8.0	0.07	0.0003	90.0	35.07	24.09	0.0	0.000312		
0.07	10.0	0.07	0.0003	90.0	35.07	24.09	0.0	0.000312		
0.07	12.0	0.07	0.0003	90.0	35.07	24.08	0.0	0.000312		
0.07	14.0	0.07	0.0003	90.0	35.07	24.07	0.0	0.000312		
0.07	16.0	0.07	0.0003	90.0	35.07	24.07	0.0	0.000312		
0.07	18.0	0.07	0.0003	90.0	35.06	24.04	0.0	0.000312		
0.07	20.0	0.07	0.0003	90.0	35.06	24.03	0.0	0.000312		
0.07	22.0	0.07	0.0003	90.0	35.07	24.02	0.0	0.000312		
0.07	24.0	0.07	0.0003	90.0	35.05	24.01	0.0	0.000312		
0.07	26.0	0.07	0.0003	90.0	35.07	23.96	0.0	0.000312		
0.07	28.0	0.07	0.0003	90.0	35.06	23.91	0.0	0.000312		
0.07	30.0	0.07	0.0003	90.0	35.03	23.87	0.0	0.000312		
0.07	32.0	0.07	0.0003	90.0	35.07	23.73	0.0	0.000312		
0.07	33.0	0.07	0.0003	90.0	35.06	23.72	0.0	0.000312		
0.07	35.0	0.07	0.0003	90.0	35.06	23.72	0.0	0.000312		
	P-dia	P-elev	V-angle	H-angle	Ports	Spacing	SttTime	EndTime	Incrmnt	
	(in)	(ft)	(deg)	(deg)	()	(ft)	(hr)	(hr)	(hr)	
5.004	2.0	0.0	125.0	52.0	12.0	1.0	60.0	1.0		
AcuteMZ	ChrncMZ	P-depth	Ttl-flo	Eff-sal	Temp	Polutnt				
	(m)	(m)	(ft)	(MGD)	(psu)	(C)	(ppm)			
64.5	305.0	105.45	26.5	6.9	28.04	100.0				
Froude number:	10.55									
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn			
	(ft)	(m/s)	(in)	(ppm)	()	(ft)	(ft)			
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0			
20	105.4	0.07	7.281	67.3	1.475	-0.256	0.37;			
40	105.4	0.07	10.67	45.29	2.181	-0.612	0.9;			
60	105.4	0.07	15.55	30.48	3.231	-1.096	1.65;			
80	105.2	0.07	22.42	20.51	4.791	-1.728	2.689;			
100	104.9	0.07	31.72	13.8	7.108	-2.516	4.092;			
120	104.0	0.07	43.43	9.289	10.55	-3.43	5.903;			
140	102.7	0.07	57.48	6.251	15.67	-4.33	7.957;			
160	100.7	0.07	74.51	4.207	23.27	-5.142	10.17;			
180	98.1	0.07	95.69	2.831	34.57	-5.863	12.62;			
200	94.83	0.07	122.3	1.905	51.36	-6.507	15.44;			

	Kailua_min8.txt						
206	93.69	0.07	131.4	1.692	57.84	-6.686	16.38; merging,
220	89.65	0.07	159.9	1.282	76.31	-7.21	19.6;
240	81.04	0.07	227.2	0.863	113.4	-7.988	25.88;
260	67.93	0.07	341.1	0.58	168.5	-8.792	34.99;
269	59.95	0.07	411.3	0.486	201.3	-9.164	40.41; axial vel
0.0195	max dilution reached						
280	47.99	0.07	520.2	0.39	250.3	-9.628	48.5;
300	18.05	0.07	801.1	0.263	372.0	-10.5	68.84; axial vel

0.121 (trap1) surface,
 Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 173.15
 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m0.67/s2)
0.26168	373.2	174.2	25.0	0.015	0.0	21.2	0.07 3.00E-4
0.26184	372.8	175.7	30.0	0.0348	0.0	21.2	0.07 3.00E-4
0.26186	372.6	177.1	35.0	0.0547	0.0	21.2	0.07 3.00E-4
0.26183	372.5	178.5	40.0	0.0745	0.0	21.2	0.07 3.00E-4
0.26178	372.4	179.8	45.0	0.0943	0.0	21.2	0.07 3.00E-4
0.26171	372.3	181.2	50.0	0.114	0.0	21.2	0.07 3.00E-4
0.26163	372.3	182.6	55.0	0.134	0.0	21.2	0.07 3.00E-4
0.26155	372.3	183.9	60.0	0.154	0.0	21.2	0.07 3.00E-4
0.26145	372.2	185.3	65.0	0.174	0.0	21.2	0.07 3.00E-4
0.26136	372.2	186.6	70.0	0.194	0.0	21.2	0.07 3.00E-4
0.26126	372.2	187.9	75.0	0.213	0.0	21.2	0.07 3.00E-4
0.26115	372.2	189.3	80.0	0.233	0.0	21.2	0.07 3.00E-4
0.26103	372.2	190.6	85.0	0.253	0.0	21.2	0.07 3.00E-4
0.2609	372.2	191.9	90.0	0.273	0.0	21.2	0.07 3.00E-4
0.26076	372.2	193.1	95.0	0.293	0.0	21.2	0.07 3.00E-4
0.26059	372.3	194.4	100.0	0.313	0.0	21.2	0.07 3.00E-4
0.26041	372.4	195.7	105.0	0.332	0.0	21.2	0.07 3.00E-4
0.26021	372.5	197.0	110.0	0.352	0.0	21.2	0.07 3.00E-4
0.25998	372.7	198.2	115.0	0.372	0.0	21.2	0.07 3.00E-4
0.25973	372.9	199.5	120.0	0.392	0.0	21.2	0.07 3.00E-4
0.25945	373.2	200.7	125.0	0.412	0.0	21.2	0.07 3.00E-4
0.25914	373.4	201.9	130.0	0.432	0.0	21.2	0.07 3.00E-4
0.25881	373.8	203.2	135.0	0.451	0.0	21.2	0.07 3.00E-4
0.25845	374.1	204.4	140.0	0.471	0.0	21.2	0.07 3.00E-4
0.25804	374.6	205.6	145.0	0.491	0.0	21.2	0.07 3.00E-4
0.25763	375.0	206.8	150.0	0.511	0.0	21.2	0.07 3.00E-4
0.2572	375.5	208.0	155.0	0.531	0.0	21.2	0.07 3.00E-4
0.25674	376.0	209.2	160.0	0.551	0.0	21.2	0.07 3.00E-4
0.25626	376.6	210.4	165.0	0.571	0.0	21.2	0.07 3.00E-4
0.25576	377.1	211.5	170.0	0.59	0.0	21.2	0.07 3.00E-4
0.25524	377.8	212.7	175.0	0.61	0.0	21.2	0.07 3.00E-4
0.2547	378.4	213.9	180.0	0.63	0.0	21.2	0.07 3.00E-4
0.25414	379.1	215.0	185.0	0.65	0.0	21.2	0.07 3.00E-4
0.25358	379.8	216.2	190.0	0.67	0.0	21.2	0.07 3.00E-4
0.25299	380.5	217.3	195.0	0.69	0.0	21.2	0.07 3.00E-4
0.25238	381.3	218.5	200.0	0.709	0.0	21.2	0.07 3.00E-4
0.25176	382.1	219.6	205.0	0.729	0.0	21.2	0.07 3.00E-4
0.25113	382.9	220.7	210.0	0.749	0.0	21.2	0.07 3.00E-4
0.25049	383.7	221.9	215.0	0.769	0.0	21.2	0.07 3.00E-4
0.24983	384.6	223.0	220.0	0.789	0.0	21.2	0.07 3.00E-4
0.24916	385.5	224.1	225.0	0.809	0.0	21.2	0.07 3.00E-4
0.24848	386.4	225.2	230.0	0.828	0.0	21.2	0.07 3.00E-4
0.24779	387.3	226.3	235.0	0.848	0.0	21.2	0.07 3.00E-4
0.24708	388.3	227.4	240.0	0.868	0.0	21.2	0.07 3.00E-4
0.24638	389.2	228.5	245.0	0.888	0.0	21.2	0.07 3.00E-4
0.24567	390.2	229.5	250.0	0.908	0.0	21.2	0.07 3.00E-4
0.24496	391.2	230.6	255.0	0.928	0.0	21.2	0.07 3.00E-4
0.24424	392.2	231.7	260.0	0.948	0.0	21.2	0.07 3.00E-4
0.24351	393.2	232.8	265.0	0.967	0.0	21.2	0.07 3.00E-4
0.2428	394.2	233.8	270.0	0.987	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.24207	395.2	234.9	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.24134	396.3	235.9	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.2406	397.3	237.0	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.23986	398.4	238.0	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.23912	399.5	239.1	295.0	1.086	0.0	21.2	0.07	3.00E-4
0.23838	400.6	240.1	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.23763	401.7	241.1	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 2; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	0.07	90.0	0.0003	35.08	24.09	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.08	24.09	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.08	24.09	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.07	24.09	0.0	0.000312
0.07	8.0	0.07	90.0	0.0003	35.07	24.09	0.0	0.000312
0.07	10.0	0.07	90.0	0.0003	35.07	24.09	0.0	0.000312
0.07	12.0	0.07	90.0	0.0003	35.07	24.08	0.0	0.000312
0.07	14.0	0.07	90.0	0.0003	35.07	24.07	0.0	0.000312
0.07	16.0	0.07	90.0	0.0003	35.07	24.07	0.0	0.000312
0.07	18.0	0.07	90.0	0.0003	35.06	24.04	0.0	0.000312
0.07	20.0	0.07	90.0	0.0003	35.06	24.03	0.0	0.000312
0.07	22.0	0.07	90.0	0.0003	35.07	24.02	0.0	0.000312
0.07	24.0	0.07	90.0	0.0003	35.05	24.01	0.0	0.000312
0.07	26.0	0.07	90.0	0.0003	35.07	23.96	0.0	0.000312
0.07	28.0	0.07	90.0	0.0003	35.06	23.91	0.0	0.000312
0.07	30.0	0.07	90.0	0.0003	35.03	23.87	0.0	0.000312
0.07	32.0	0.07	90.0	0.0003	35.07	23.73	0.0	0.000312
0.07	33.0	0.07	90.0	0.0003	35.06	23.72	0.0	0.000312
0.07	34.0	0.07	90.0	0.0003				
	Ttl-flo (MGD)	Temp (C)						
	17.4	28.04						

Froude number: 6.927

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.253	67.3	1.475	-0.244	0.355;
40	105.4	0.07	10.56	45.29	2.181	-0.573	0.854;
60	105.3	0.07	15.2	30.48	3.231	-1.002	1.546;
80	105.1	0.07	21.44	20.51	4.791	-1.533	2.478;
100	104.5	0.07	29.24	13.8	7.108	-2.141	3.672;

Kailua_min8.txt							
120	103.6	0.07	38.54	9.289	10.55	-2.732	5.011;
140	102.2	0.07	49.8	6.251	15.67	-3.261	6.453;
160	100.5	0.07	63.75	4.207	23.27	-3.73	8.051;
180	98.32	0.07	81.34	2.831	34.57	-4.146	9.895;
200	95.61	0.07	103.6	1.905	51.36	-4.519	12.1;
217	92.83	0.07	126.7	1.36	71.91	-4.804	14.38; merging,
220	92.2	0.07	131.5	1.282	76.31	-4.859	14.89;
240	86.57	0.07	179.7	0.863	113.4	-5.253	19.44;
260	77.95	0.07	263.0	0.58	168.5	-5.663	26.21;
280	65.0	0.07	397.1	0.391	250.3	-6.095	36.52; axial vel
0.015							
290	56.31	0.07	491.6	0.32	305.2	-6.317	43.52; max dilution
reached							
300	45.72	0.07	609.9	0.263	372.0	-6.544	52.18;
317	22.25	0.07	884.9	0.188	520.9	-6.943	71.96; axial vel
0.0908 (trap1) surface,							
Const Eddy Diffusivity.							
m							
conc	dilutn	width	distnce	time			
(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.1868	522.8	176.1	25.0	0.0118	0.0	21.2	0.07 3.00E-4
0.18694	522.1	177.6	30.0	0.0316	0.0	21.2	0.07 3.00E-4
0.18697	521.8	179.0	35.0	0.0514	0.0	21.2	0.07 3.00E-4
0.18695	521.6	180.4	40.0	0.0713	0.0	21.2	0.07 3.00E-4
0.18692	521.5	181.8	45.0	0.0911	0.0	21.2	0.07 3.00E-4
0.18687	521.4	183.2	50.0	0.111	0.0	21.2	0.07 3.00E-4
0.18681	521.3	184.5	55.0	0.131	0.0	21.2	0.07 3.00E-4
0.18675	521.2	185.9	60.0	0.151	0.0	21.2	0.07 3.00E-4
0.18669	521.2	187.2	65.0	0.17	0.0	21.2	0.07 3.00E-4
0.18662	521.2	188.6	70.0	0.19	0.0	21.2	0.07 3.00E-4
0.18655	521.1	189.9	75.0	0.21	0.0	21.2	0.07 3.00E-4
0.18648	521.1	191.2	80.0	0.23	0.0	21.2	0.07 3.00E-4
0.18639	521.1	192.6	85.0	0.25	0.0	21.2	0.07 3.00E-4
0.1863	521.1	193.9	90.0	0.27	0.0	21.2	0.07 3.00E-4
0.1862	521.2	195.2	95.0	0.29	0.0	21.2	0.07 3.00E-4
0.18609	521.3	196.4	100.0	0.309	0.0	21.2	0.07 3.00E-4
0.18597	521.4	197.7	105.0	0.329	0.0	21.2	0.07 3.00E-4
0.18582	521.6	199.0	110.0	0.349	0.0	21.2	0.07 3.00E-4
0.18567	521.8	200.3	115.0	0.369	0.0	21.2	0.07 3.00E-4
0.18549	522.1	201.5	120.0	0.389	0.0	21.2	0.07 3.00E-4
0.1853	522.4	202.8	125.0	0.409	0.0	21.2	0.07 3.00E-4
0.18509	522.8	204.0	130.0	0.428	0.0	21.2	0.07 3.00E-4
0.18486	523.2	205.2	135.0	0.448	0.0	21.2	0.07 3.00E-4
0.18461	523.7	206.5	140.0	0.468	0.0	21.2	0.07 3.00E-4
0.18433	524.3	207.7	145.0	0.488	0.0	21.2	0.07 3.00E-4
0.18405	524.9	208.9	150.0	0.508	0.0	21.2	0.07 3.00E-4
0.18374	525.5	210.1	155.0	0.528	0.0	21.2	0.07 3.00E-4
0.18343	526.2	211.3	160.0	0.547	0.0	21.2	0.07 3.00E-4
0.18309	527.0	212.5	165.0	0.567	0.0	21.2	0.07 3.00E-4
0.18274	527.8	213.7	170.0	0.587	0.0	21.2	0.07 3.00E-4
0.18238	528.6	214.8	175.0	0.607	0.0	21.2	0.07 3.00E-4
0.182	529.5	216.0	180.0	0.627	0.0	21.2	0.07 3.00E-4
0.18161	530.4	217.2	185.0	0.647	0.0	21.2	0.07 3.00E-4
0.18121	531.4	218.3	190.0	0.667	0.0	21.2	0.07 3.00E-4
0.1808	532.4	219.5	195.0	0.686	0.0	21.2	0.07 3.00E-4
0.18038	533.4	220.6	200.0	0.706	0.0	21.2	0.07 3.00E-4
0.17994	534.5	221.8	205.0	0.726	0.0	21.2	0.07 3.00E-4
0.17949	535.6	222.9	210.0	0.746	0.0	21.2	0.07 3.00E-4
0.17904	536.7	224.0	215.0	0.766	0.0	21.2	0.07 3.00E-4
0.17858	537.9	225.2	220.0	0.786	0.0	21.2	0.07 3.00E-4
0.17811	539.1	226.3	225.0	0.805	0.0	21.2	0.07 3.00E-4
0.17764	540.4	227.4	230.0	0.825	0.0	21.2	0.07 3.00E-4
0.17715	541.6	228.5	235.0	0.845	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.17664	543.0	229.6	240.0	0.865	0.0	21.2	0.07	3.00E-4
0.17615	544.3	230.7	245.0	0.885	0.0	21.2	0.07	3.00E-4
0.17565	545.6	231.8	250.0	0.905	0.0	21.2	0.07	3.00E-4
0.17515	547.0	232.9	255.0	0.924	0.0	21.2	0.07	3.00E-4
0.17464	548.4	234.0	260.0	0.944	0.0	21.2	0.07	3.00E-4
0.17413	549.8	235.0	265.0	0.964	0.0	21.2	0.07	3.00E-4
0.17361	551.2	236.1	270.0	0.984	0.0	21.2	0.07	3.00E-4
0.17311	552.6	237.2	275.0	1.004	0.0	21.2	0.07	3.00E-4
0.17259	554.0	238.2	280.0	1.024	0.0	21.2	0.07	3.00E-4
0.17207	555.5	239.3	285.0	1.044	0.0	21.2	0.07	3.00E-4
0.17155	557.0	240.3	290.0	1.063	0.0	21.2	0.07	3.00E-4
0.17102	558.5	241.4	295.0	1.083	0.0	21.2	0.07	3.00E-4
0.1705	560.0	242.4	300.0	1.103	0.0	21.2	0.07	3.00E-4
0.16997	561.5	243.5	305.0	1.123	0.0	21.2	0.07	3.00E-4
count:	57							
/ windows UM3.								
Case 3; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:								
<hr/>								
Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
m/s	Far-dir	Disprsn						
	m	m/s	deg	psu	C	kg/kg	s-1	
	deg	m ^{0.67} /s ²						
0.07	0.0	0.07	90.0	35.08	24.09	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.08	24.09	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.08	24.09	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.07	24.09	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.07	24.09	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.07	24.09	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.07	24.08	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.07	24.07	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.07	24.07	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.06	24.04	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.06	24.03	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.07	24.02	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.05	24.01	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.07	23.96	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.06	23.91	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.03	23.87	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.07	23.73	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.06	23.72	0.0	0.000312	
	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
21.12	28.04							
Froude number: 8.407								

Froude number: 8.407
Depth Amb-surf

Depth Amb-cur P-dia Pollutnt B1-luth x-posn y-posn

Kailua_min8.txt							
Step	(ft)	(m/s)	(in)	(ppm)	()	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.267	67.3	1.475	-0.25	0.362;
40	105.4	0.07	10.61	45.29	2.181	-0.593	0.877;
60	105.4	0.07	15.38	30.48	3.231	-1.048	1.598;
80	105.2	0.07	21.97	20.51	4.791	-1.628	2.582;
100	104.7	0.07	30.52	13.8	7.108	-2.326	3.886;
120	103.8	0.07	40.89	9.289	10.55	-3.064	5.452;
140	102.4	0.07	53.32	6.251	15.67	-3.743	7.149;
160	100.5	0.07	68.57	4.207	23.27	-4.347	8.997;
180	98.16	0.07	87.72	2.831	34.57	-4.884	11.09;
200	95.2	0.07	111.8	1.905	51.36	-5.363	13.55;
212	93.09	0.07	129.1	1.502	65.13	-5.625	15.27; merging,
220	91.13	0.07	143.6	1.282	76.31	-5.831	16.85;
240	84.26	0.07	200.1	0.863	113.4	-6.372	22.13;
260	73.82	0.07	298.1	0.58	168.5	-6.932	29.88;
280	57.95	0.07	450.5	0.39	250.3	-7.519	41.58; axial vel
0.0202 max dilution reached							
300	34.23	0.07	691.5	0.263	372.0	-8.13	59.28;
309	20.14	0.07	843.6	0.22	444.6	-8.413	70.03; axial vel
0.104 (trap1) surface, Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 174.23 m							
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
(ppm)	(m)	(m)	(m)	(hrs)			
0.21892	446.1	175.2	25.0	0.0139	0.0	21.2	0.07 3.00E-4
0.21907	445.6	176.7	30.0	0.0337	0.0	21.2	0.07 3.00E-4
0.21909	445.3	178.1	35.0	0.0536	0.0	21.2	0.07 3.00E-4
0.21907	445.2	179.5	40.0	0.0734	0.0	21.2	0.07 3.00E-4
0.21902	445.1	180.9	45.0	0.0933	0.0	21.2	0.07 3.00E-4
0.21896	445.0	182.2	50.0	0.113	0.0	21.2	0.07 3.00E-4
0.2189	444.9	183.6	55.0	0.133	0.0	21.2	0.07 3.00E-4
0.21883	444.9	185.0	60.0	0.153	0.0	21.2	0.07 3.00E-4
0.21875	444.8	186.3	65.0	0.173	0.0	21.2	0.07 3.00E-4
0.21867	444.8	187.6	70.0	0.192	0.0	21.2	0.07 3.00E-4
0.21859	444.8	189.0	75.0	0.212	0.0	21.2	0.07 3.00E-4
0.2185	444.8	190.3	80.0	0.232	0.0	21.2	0.07 3.00E-4
0.2184	444.8	191.6	85.0	0.252	0.0	21.2	0.07 3.00E-4
0.21829	444.8	192.9	90.0	0.272	0.0	21.2	0.07 3.00E-4
0.21817	444.9	194.2	95.0	0.292	0.0	21.2	0.07 3.00E-4
0.21804	444.9	195.5	100.0	0.312	0.0	21.2	0.07 3.00E-4
0.21789	445.0	196.8	105.0	0.331	0.0	21.2	0.07 3.00E-4
0.21772	445.2	198.0	110.0	0.351	0.0	21.2	0.07 3.00E-4
0.21753	445.4	199.3	115.0	0.371	0.0	21.2	0.07 3.00E-4
0.21733	445.6	200.5	120.0	0.391	0.0	21.2	0.07 3.00E-4
0.2171	445.9	201.8	125.0	0.411	0.0	21.2	0.07 3.00E-4
0.21684	446.3	203.0	130.0	0.431	0.0	21.2	0.07 3.00E-4
0.21657	446.6	204.2	135.0	0.45	0.0	21.2	0.07 3.00E-4
0.21627	447.1	205.5	140.0	0.47	0.0	21.2	0.07 3.00E-4
0.21594	447.6	206.7	145.0	0.49	0.0	21.2	0.07 3.00E-4
0.2156	448.1	207.9	150.0	0.51	0.0	21.2	0.07 3.00E-4
0.21524	448.7	209.1	155.0	0.53	0.0	21.2	0.07 3.00E-4
0.21486	449.3	210.3	160.0	0.55	0.0	21.2	0.07 3.00E-4
0.21447	449.9	211.5	165.0	0.569	0.0	21.2	0.07 3.00E-4
0.21405	450.6	212.7	170.0	0.589	0.0	21.2	0.07 3.00E-4
0.21362	451.3	213.8	175.0	0.609	0.0	21.2	0.07 3.00E-4
0.21317	452.1	215.0	180.0	0.629	0.0	21.2	0.07 3.00E-4
0.21271	452.9	216.2	185.0	0.649	0.0	21.2	0.07 3.00E-4
0.21224	453.7	217.3	190.0	0.669	0.0	21.2	0.07 3.00E-4
0.21175	454.6	218.5	195.0	0.688	0.0	21.2	0.07 3.00E-4
0.21125	455.5	219.6	200.0	0.708	0.0	21.2	0.07 3.00E-4
0.21073	456.4	220.7	205.0	0.728	0.0	21.2	0.07 3.00E-4
0.2102	457.4	221.9	210.0	0.748	0.0	21.2	0.07 3.00E-4

					Kailua_min8.txt			
0.20967	458.4	223.0	215.0	0.768	0.0	21.2	0.07	3.00E-4
0.20913	459.4	224.1	220.0	0.788	0.0	21.2	0.07	3.00E-4
0.20857	460.4	225.2	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.20801	461.5	226.3	230.0	0.827	0.0	21.2	0.07	3.00E-4
0.20744	462.6	227.4	235.0	0.847	0.0	21.2	0.07	3.00E-4
0.20684	463.7	228.5	240.0	0.867	0.0	21.2	0.07	3.00E-4
0.20626	464.9	229.6	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.20567	466.0	230.7	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.20508	467.2	231.8	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.20448	468.4	232.9	260.0	0.946	0.0	21.2	0.07	3.00E-4
0.20387	469.6	233.9	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.20327	470.8	235.0	270.0	0.986	0.0	21.2	0.07	3.00E-4
0.20267	472.0	236.1	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.20206	473.3	237.1	280.0	1.026	0.0	21.2	0.07	3.00E-4
0.20145	474.5	238.2	285.0	1.046	0.0	21.2	0.07	3.00E-4
0.20084	475.8	239.2	290.0	1.065	0.0	21.2	0.07	3.00E-4
0.20022	477.1	240.3	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.1996	478.4	241.3	300.0	1.105	0.0	21.2	0.07	3.00E-4
0.19898	479.7	242.4	305.0	1.125	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 4; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg	Amb-dir Disprsn m0.67/s2	Amb-sal deg	Amb-tem psu	Amb-temp C	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	90.0	0.07 0.0003	90.0	35.17	23.36	0.0	0.000312
0.07	2.0	90.0	0.07 0.0003	90.0	35.18	23.35	0.0	0.000312
0.07	4.0	90.0	0.07 0.0003	90.0	35.18	23.34	0.0	0.000312
0.07	6.0	90.0	0.07 0.0003	90.0	35.19	23.33	0.0	0.000312
0.07	8.0	90.0	0.07 0.0003	90.0	35.19	23.33	0.0	0.000312
0.07	10.0	90.0	0.07 0.0003	90.0	35.2	23.32	0.0	0.000312
0.07	12.0	90.0	0.07 0.0003	90.0	35.21	23.27	0.0	0.000312
0.07	14.0	90.0	0.07 0.0003	90.0	35.22	23.26	0.0	0.000312
0.07	16.0	90.0	0.07 0.0003	90.0	35.22	23.27	0.0	0.000312
0.07	18.0	90.0	0.07 0.0003	90.0	35.21	23.27	0.0	0.000312
0.07	20.0	90.0	0.07 0.0003	90.0	35.21	23.27	0.0	0.000312
0.07	22.0	90.0	0.07 0.0003	90.0	35.21	23.27	0.0	0.000312
0.07	24.0	90.0	0.07 0.0003	90.0	35.22	23.26	0.0	0.000312
0.07	26.0	90.0	0.07 0.0003	90.0	35.2	23.26	0.0	0.000312
0.07	28.0	90.0	0.07 0.0003	90.0	35.23	23.18	0.0	0.000312
0.07	30.0	90.0	0.07 0.0003	90.0	35.22	23.18	0.0	0.000312
0.07	32.0	90.0	0.07 0.0003	90.0	35.22	23.17	0.0	0.000312
0.07	33.0	90.0	0.07 0.0003	90.0	35.23	23.16	0.0	0.000312

Kailua_min8.txt

Tt1-flo	Temp							
(MGD)	(C)							
17.36	28.04							
Froude number:	6.868							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.252	67.3	1.475	-0.244	0.355	
40	105.4	0.07	10.55	45.29	2.181	-0.572	0.854	
60	105.3	0.07	15.19	30.48	3.23	-1.001	1.545	
80	105.1	0.07	21.42	20.51	4.79	-1.531	2.475	
100	104.5	0.07	29.18	13.8	7.106	-2.137	3.665	
120	103.6	0.07	38.44	9.289	10.55	-2.723	4.996	
140	102.2	0.07	49.6	6.251	15.66	-3.248	6.428	
160	100.5	0.07	63.4	4.207	23.27	-3.712	8.013	
180	98.26	0.07	80.67	2.831	34.56	-4.124	9.837	
200	95.5	0.07	102.4	1.905	51.35	-4.491	12.01	
218	92.5	0.07	126.7	1.334	73.33	-4.786	14.39	merging,
220	92.08	0.07	129.8	1.282	76.29	-4.821	14.72	
240	86.47	0.07	177.6	0.863	113.3	-5.201	19.12	
260	77.93	0.07	261.9	0.58	168.4	-5.606	25.83	
280	64.86	0.07	390.5	0.391	250.3	-6.031	35.98	axial vel
0.015								
290	56.04	0.07	478.8	0.32	305.1	-6.247	42.83	max dilution
reached								
300	45.06	0.07	580.6	0.263	371.9	-6.467	51.24	
317	21.55	0.07	858.5	0.188	520.7	-6.835	69.48	axial vel
0.0922	(trap1) surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of							174.61
m	conc	dilutn	width	distnce	time			
	(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.18685	522.4	175.7	25.0	0.0148	0.0	21.2	0.07	3.00E-4
0.18696	521.9	177.1	30.0	0.0346	0.0	21.2	0.07	3.00E-4
0.18698	521.6	178.5	35.0	0.0544	0.0	21.2	0.07	3.00E-4
0.18696	521.4	179.9	40.0	0.0743	0.0	21.2	0.07	3.00E-4
0.18692	521.3	181.3	45.0	0.0941	0.0	21.2	0.07	3.00E-4
0.18687	521.2	182.7	50.0	0.114	0.0	21.2	0.07	3.00E-4
0.18682	521.1	184.0	55.0	0.134	0.0	21.2	0.07	3.00E-4
0.18676	521.1	185.4	60.0	0.154	0.0	21.2	0.07	3.00E-4
0.18669	521.0	186.8	65.0	0.173	0.0	21.2	0.07	3.00E-4
0.18662	521.0	188.1	70.0	0.193	0.0	21.2	0.07	3.00E-4
0.18655	521.0	189.4	75.0	0.213	0.0	21.2	0.07	3.00E-4
0.18647	520.9	190.7	80.0	0.233	0.0	21.2	0.07	3.00E-4
0.18639	521.0	192.1	85.0	0.253	0.0	21.2	0.07	3.00E-4
0.1863	521.0	193.4	90.0	0.273	0.0	21.2	0.07	3.00E-4
0.1862	521.0	194.7	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.18608	521.1	195.9	100.0	0.312	0.0	21.2	0.07	3.00E-4
0.18595	521.3	197.2	105.0	0.332	0.0	21.2	0.07	3.00E-4
0.18581	521.5	198.5	110.0	0.352	0.0	21.2	0.07	3.00E-4
0.18565	521.7	199.7	115.0	0.372	0.0	21.2	0.07	3.00E-4
0.18547	522.0	201.0	120.0	0.392	0.0	21.2	0.07	3.00E-4
0.18528	522.3	202.2	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.18506	522.7	203.5	130.0	0.431	0.0	21.2	0.07	3.00E-4
0.18483	523.1	204.7	135.0	0.451	0.0	21.2	0.07	3.00E-4
0.18457	523.6	205.9	140.0	0.471	0.0	21.2	0.07	3.00E-4
0.18429	524.2	207.1	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.184	524.8	208.3	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.18369	525.5	209.6	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.18337	526.2	210.7	160.0	0.55	0.0	21.2	0.07	3.00E-4
0.18303	527.0	211.9	165.0	0.57	0.0	21.2	0.07	3.00E-4
0.18268	527.8	213.1	170.0	0.59	0.0	21.2	0.07	3.00E-4
0.18231	528.6	214.3	175.0	0.61	0.0	21.2	0.07	3.00E-4

Kailua_min8.txt

0.18193	529.5	215.5	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.18154	530.5	216.6	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.18114	531.4	217.8	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.18072	532.4	218.9	195.0	0.689	0.0	21.2	0.07	3.00E-4
0.18029	533.5	220.1	200.0	0.709	0.0	21.2	0.07	3.00E-4
0.17985	534.6	221.2	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.1794	535.7	222.3	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.17895	536.9	223.5	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.17849	538.0	224.6	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.17801	539.3	225.7	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.17753	540.5	226.8	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.17704	541.8	227.9	235.0	0.848	0.0	21.2	0.07	3.00E-4
0.17654	543.1	229.0	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.17604	544.5	230.1	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.17554	545.8	231.2	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.17503	547.2	232.3	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.17452	548.6	233.3	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.17401	550.0	234.4	265.0	0.967	0.0	21.2	0.07	3.00E-4
0.17349	551.4	235.5	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.17299	552.8	236.6	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.17247	554.3	237.6	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.17194	555.7	238.7	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.17142	557.2	239.7	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.17089	558.7	240.8	295.0	1.086	0.0	21.2	0.07	3.00E-4
0.17037	560.2	241.8	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.16984	561.8	242.8	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ windows UM3.

Case 5; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg	Amb-dir Disprsn m0.67/s2	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	90.0	0.07 0.0003	35.17	23.36	0.0	0.000312
0.07	2.0	90.0	0.07 0.0003	35.18	23.35	0.0	0.000312
0.07	4.0	90.0	0.07 0.0003	35.18	23.34	0.0	0.000312
0.07	6.0	90.0	0.07 0.0003	35.19	23.33	0.0	0.000312
0.07	8.0	90.0	0.07 0.0003	35.19	23.33	0.0	0.000312
0.07	10.0	90.0	0.07 0.0003	35.2	23.32	0.0	0.000312
0.07	12.0	90.0	0.07 0.0003	35.21	23.27	0.0	0.000312
0.07	14.0	90.0	0.07 0.0003	35.22	23.26	0.0	0.000312
0.07	16.0	90.0	0.07 0.0003	35.22	23.27	0.0	0.000312
0.07	18.0	90.0	0.07 0.0003	35.21	23.27	0.0	0.000312
0.07	20.0	90.0	0.07 0.0003	35.21	23.27	0.0	0.000312
0.07	22.0	90.0	0.07 0.0003	35.21	23.27	0.0	0.000312
0.07	24.0	90.0	0.07 0.0003	35.22	23.26	0.0	0.000312
0.07	26.0	90.0	0.07 0.0003	35.2	23.26	0.0	0.000312
0.07	28.0	90.0	0.07 0.0003	35.23	23.18	0.0	0.000312

Kailua_min8.txt

0.07	90.0	0.0003						
	30.0	0.07	90.0	35.22	23.18	0.0	0.000312	
0.07	90.0	0.0003						
	32.0	0.07	90.0	35.22	23.17	0.0	0.000312	
0.07	90.0	0.0003						
	33.0	0.07	90.0	35.23	23.16	0.0	0.000312	
0.07	90.0	0.0003						

Ttl-flo Temp
(MGD) (C)
17.14 28.04

Froude number: 6.781

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.251	67.3	1.475	-0.243	0.354;
40	105.4	0.07	10.55	45.29	2.181	-0.571	0.852;
60	105.3	0.07	15.18	30.48	3.23	-0.997	1.541;
80	105.1	0.07	21.38	20.51	4.79	-1.524	2.468;
100	104.5	0.07	29.09	13.8	7.106	-2.124	3.649;
120	103.5	0.07	38.28	9.289	10.55	-2.701	4.966;
140	102.2	0.07	49.37	6.251	15.66	-3.217	6.383;
160	100.5	0.07	63.09	4.207	23.27	-3.674	7.953;
180	98.27	0.07	80.27	2.831	34.56	-4.079	9.763;
200	95.53	0.07	101.9	1.905	51.35	-4.44	11.93;
219	92.36	0.07	127.5	1.308	74.79	-4.745	14.43; merging,
220	92.15	0.07	129.1	1.282	76.29	-4.762	14.6;
240	86.63	0.07	176.4	0.863	113.3	-5.134	18.95;
260	78.2	0.07	260.0	0.58	168.4	-5.531	25.6;
280	65.3	0.07	387.4	0.391	250.3	-5.947	35.68;
291	55.63	0.07	484.9	0.314	311.2	-6.181	43.23; axial vel
0.0215	max dilution reached						
300	45.79	0.07	576.7	0.263	371.9	-6.376	50.82;
317	22.47	0.07	847.2	0.188	520.7	-6.737	68.96; axial vel

0.0873 (trap1)surface,
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 174.32
m

conc (ppm)	dilutn (%)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)($m^{0.67}/s^2$)
0.18686	522.4	175.4	25.0	0.0154	0.0	21.2	0.07 3.00E-4
0.18697	521.9	176.9	30.0	0.0352	0.0	21.2	0.07 3.00E-4
0.18698	521.6	178.3	35.0	0.0551	0.0	21.2	0.07 3.00E-4
0.18696	521.4	179.7	40.0	0.0749	0.0	21.2	0.07 3.00E-4
0.18692	521.3	181.1	45.0	0.0948	0.0	21.2	0.07 3.00E-4
0.18687	521.2	182.4	50.0	0.115	0.0	21.2	0.07 3.00E-4
0.18682	521.1	183.8	55.0	0.134	0.0	21.2	0.07 3.00E-4
0.18676	521.1	185.2	60.0	0.154	0.0	21.2	0.07 3.00E-4
0.18669	521.0	186.5	65.0	0.174	0.0	21.2	0.07 3.00E-4
0.18662	521.0	187.8	70.0	0.194	0.0	21.2	0.07 3.00E-4
0.18655	521.0	189.2	75.0	0.214	0.0	21.2	0.07 3.00E-4
0.18647	520.9	190.5	80.0	0.234	0.0	21.2	0.07 3.00E-4
0.18639	521.0	191.8	85.0	0.253	0.0	21.2	0.07 3.00E-4
0.1863	521.0	193.1	90.0	0.273	0.0	21.2	0.07 3.00E-4
0.18619	521.0	194.4	95.0	0.293	0.0	21.2	0.07 3.00E-4
0.18608	521.1	195.7	100.0	0.313	0.0	21.2	0.07 3.00E-4
0.18595	521.3	197.0	105.0	0.333	0.0	21.2	0.07 3.00E-4
0.18581	521.5	198.2	110.0	0.353	0.0	21.2	0.07 3.00E-4
0.18564	521.7	199.5	115.0	0.373	0.0	21.2	0.07 3.00E-4
0.18547	522.0	200.7	120.0	0.392	0.0	21.2	0.07 3.00E-4
0.18527	522.3	202.0	125.0	0.412	0.0	21.2	0.07 3.00E-4
0.18505	522.7	203.2	130.0	0.432	0.0	21.2	0.07 3.00E-4
0.18482	523.2	204.4	135.0	0.452	0.0	21.2	0.07 3.00E-4
0.18456	523.7	205.7	140.0	0.472	0.0	21.2	0.07 3.00E-4
0.18428	524.3	206.9	145.0	0.492	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.18399	524.9	208.1	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.18368	525.5	209.3	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.18336	526.2	210.5	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.18302	527.0	211.7	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.18266	527.8	212.8	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.18229	528.7	214.0	175.0	0.611	0.0	21.2	0.07	3.00E-4
0.18191	529.6	215.2	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.18151	530.5	216.3	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.18111	531.5	217.5	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.18069	532.5	218.6	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.18026	533.6	219.8	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.17982	534.7	220.9	205.0	0.73	0.0	21.2	0.07	3.00E-4
0.17937	535.8	222.1	210.0	0.75	0.0	21.2	0.07	3.00E-4
0.17892	536.9	223.2	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.17846	538.1	224.3	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.17798	539.4	225.4	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.1775	540.6	226.5	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.17701	541.9	227.6	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.1765	543.3	228.7	240.0	0.869	0.0	21.2	0.07	3.00E-4
0.17601	544.6	229.8	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.1755	545.9	230.9	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.175	547.3	232.0	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.17449	548.7	233.1	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.17397	550.1	234.1	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.17345	551.5	235.2	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.17295	552.9	236.3	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.17243	554.4	237.3	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.1719	555.9	238.4	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.17138	557.4	239.4	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.17085	558.9	240.5	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.17032	560.4	241.5	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.16979	561.9	242.5	305.0	1.127	0.0	21.2	0.07	3.00E-4

count: 57

/ windows UM3.

Case 6; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir deg	Far-dir m/s	Disprsn m0.67/s2	deg	psu	C	kg/kg	s-1
0.07	0.0	0.07	0.0003	90.0	34.95	25.92	0.0	0.000312
0.07	2.0	0.07	0.0003	90.0	34.9	25.87	0.0	0.000312
0.07	4.0	0.07	0.0003	90.0	34.94	25.61	0.0	0.000312
0.07	6.0	0.07	0.0003	90.0	34.95	25.53	0.0	0.000312
0.07	8.0	0.07	0.0003	90.0	34.94	25.46	0.0	0.000312
0.07	10.0	0.07	0.0003	90.0	34.96	25.43	0.0	0.000312
0.07	12.0	0.07	0.0003	90.0	34.96	25.41	0.0	0.000312
0.07	14.0	0.07	0.0003	90.0	34.96	25.41	0.0	0.000312
0.07	16.0	0.07	0.0003	90.0	34.95	25.39	0.0	0.000312
0.07	18.0	0.07	0.0003	90.0	34.96	25.38	0.0	0.000312
0.07	20.0	0.07	0.0003	90.0	34.96	25.38	0.0	0.000312
0.07	22.0	0.07	0.0003	90.0	34.95	25.38	0.0	0.000312

Kailua_min8.txt

0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	34.95	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	34.95	25.38	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
19.98	28.04							
Froude number:	8.059							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.264	67.3	1.475	-0.248	0.361;	
40	105.4	0.07	10.6	45.29	2.182	-0.588	0.872;	
60	105.3	0.07	15.34	30.48	3.232	-1.036	1.585;	
80	105.1	0.07	21.85	20.51	4.793	-1.603	2.555;	
100	104.6	0.07	30.24	13.8	7.111	-2.278	3.835;	
120	103.7	0.07	40.36	9.289	10.56	-2.978	5.347;	
140	102.4	0.07	52.5	6.251	15.68	-3.616	6.98;	
160	100.6	0.07	67.38	4.207	23.29	-4.183	8.765;	
180	98.25	0.07	85.92	2.831	34.59	-4.685	10.79;	
200	95.35	0.07	109.2	1.905	51.39	-5.131	13.18;	
214	92.92	0.07	128.9	1.444	67.8	-5.414	15.14; merging,	
220	91.5	0.07	139.5	1.282	76.35	-5.553	16.28;	
240	84.98	0.07	192.5	0.863	113.4	-6.043	21.3;	
260	74.9	0.07	278.4	0.58	168.6	-6.547	28.63;	
280	59.6	0.07	411.6	0.39	250.5	-7.058	39.35; axial vel	
0.0188								
283	56.69	0.07	436.1	0.368	265.8	-7.135	41.34; max dilution	
reached								
300	36.62	0.07	618.9	0.263	372.2	-7.573	55.07;	
312	18.29	0.07	823.0	0.207	472.0	-7.887	68.0; axial vel	
0.113 (trap1)surface,								
Const Eddy Diffusivity.								
m								
	conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.20633	473.5	174.9	25.0	0.0164	0.0	21.2	0.07	3.00E-4
0.20644	473.0	176.3	30.0	0.0362	0.0	21.2	0.07	3.00E-4
0.20646	472.8	177.7	35.0	0.0561	0.0	21.2	0.07	3.00E-4
0.20643	472.6	179.1	40.0	0.0759	0.0	21.2	0.07	3.00E-4
0.20639	472.5	180.5	45.0	0.0958	0.0	21.2	0.07	3.00E-4
0.20633	472.4	181.9	50.0	0.116	0.0	21.2	0.07	3.00E-4
0.20627	472.4	183.2	55.0	0.135	0.0	21.2	0.07	3.00E-4
0.20621	472.3	184.6	60.0	0.155	0.0	21.2	0.07	3.00E-4
0.20613	472.3	185.9	65.0	0.175	0.0	21.2	0.07	3.00E-4
0.20606	472.3	187.3	70.0	0.195	0.0	21.2	0.07	3.00E-4
0.20598	472.2	188.6	75.0	0.215	0.0	21.2	0.07	3.00E-4
0.20589	472.2	189.9	80.0	0.235	0.0	21.2	0.07	3.00E-4
0.2058	472.2	191.2	85.0	0.254	0.0	21.2	0.07	3.00E-4
0.2057	472.3	192.5	90.0	0.274	0.0	21.2	0.07	3.00E-4
0.20558	472.3	193.8	95.0	0.294	0.0	21.2	0.07	3.00E-4
0.20545	472.4	195.1	100.0	0.314	0.0	21.2	0.07	3.00E-4
0.20531	472.5	196.4	105.0	0.334	0.0	21.2	0.07	3.00E-4
0.20515	472.7	197.6	110.0	0.354	0.0	21.2	0.07	3.00E-4

Kailua_min8.txt								
0.20497	472.9	198.9	115.0	0.374	0.0	21.2	0.07	3.00E-4
0.20477	473.2	200.1	120.0	0.393	0.0	21.2	0.07	3.00E-4
0.20455	473.5	201.4	125.0	0.413	0.0	21.2	0.07	3.00E-4
0.2043	473.9	202.6	130.0	0.433	0.0	21.2	0.07	3.00E-4
0.20404	474.3	203.8	135.0	0.453	0.0	21.2	0.07	3.00E-4
0.20376	474.7	205.1	140.0	0.473	0.0	21.2	0.07	3.00E-4
0.20344	475.3	206.3	145.0	0.493	0.0	21.2	0.07	3.00E-4
0.20312	475.8	207.5	150.0	0.512	0.0	21.2	0.07	3.00E-4
0.20277	476.5	208.7	155.0	0.532	0.0	21.2	0.07	3.00E-4
0.20241	477.1	209.9	160.0	0.552	0.0	21.2	0.07	3.00E-4
0.20204	477.8	211.1	165.0	0.572	0.0	21.2	0.07	3.00E-4
0.20164	478.5	212.2	170.0	0.592	0.0	21.2	0.07	3.00E-4
0.20123	479.3	213.4	175.0	0.612	0.0	21.2	0.07	3.00E-4
0.20081	480.2	214.6	180.0	0.631	0.0	21.2	0.07	3.00E-4
0.20037	481.0	215.7	185.0	0.651	0.0	21.2	0.07	3.00E-4
0.19992	481.9	216.9	190.0	0.671	0.0	21.2	0.07	3.00E-4
0.19946	482.8	218.0	195.0	0.691	0.0	21.2	0.07	3.00E-4
0.19898	483.8	219.2	200.0	0.711	0.0	21.2	0.07	3.00E-4
0.19849	484.8	220.3	205.0	0.731	0.0	21.2	0.07	3.00E-4
0.19799	485.8	221.4	210.0	0.751	0.0	21.2	0.07	3.00E-4
0.19749	486.9	222.6	215.0	0.77	0.0	21.2	0.07	3.00E-4
0.19697	488.0	223.7	220.0	0.79	0.0	21.2	0.07	3.00E-4
0.19644	489.1	224.8	225.0	0.81	0.0	21.2	0.07	3.00E-4
0.19591	490.2	225.9	230.0	0.83	0.0	21.2	0.07	3.00E-4
0.19537	491.4	227.0	235.0	0.85	0.0	21.2	0.07	3.00E-4
0.1948	492.6	228.1	240.0	0.87	0.0	21.2	0.07	3.00E-4
0.19425	493.8	229.2	245.0	0.889	0.0	21.2	0.07	3.00E-4
0.1937	495.1	230.3	250.0	0.909	0.0	21.2	0.07	3.00E-4
0.19314	496.3	231.3	255.0	0.929	0.0	21.2	0.07	3.00E-4
0.19257	497.6	232.4	260.0	0.949	0.0	21.2	0.07	3.00E-4
0.192	498.9	233.5	265.0	0.969	0.0	21.2	0.07	3.00E-4
0.19144	500.1	234.5	270.0	0.989	0.0	21.2	0.07	3.00E-4
0.19086	501.5	235.6	275.0	1.008	0.0	21.2	0.07	3.00E-4
0.19029	502.8	236.7	280.0	1.028	0.0	21.2	0.07	3.00E-4
0.18971	504.1	237.7	285.0	1.048	0.0	21.2	0.07	3.00E-4
0.18913	505.5	238.8	290.0	1.068	0.0	21.2	0.07	3.00E-4
0.18854	506.8	239.8	295.0	1.088	0.0	21.2	0.07	3.00E-4
0.18796	508.2	240.8	300.0	1.108	0.0	21.2	0.07	3.00E-4
0.18737	509.6	241.9	305.0	1.128	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 7; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn 0.67/s ²	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
		Far-dir deg	deg					
0.07	0.0	90.0	0.07	0.0003	34.95	25.92	0.0	0.000312
0.07	2.0	90.0	0.07	0.0003	34.9	25.87	0.0	0.000312
0.07	4.0	90.0	0.07	0.0003	34.94	25.61	0.0	0.000312
0.07	6.0	90.0	0.07	0.0003	34.95	25.53	0.0	0.000312
0.07	8.0	90.0	0.07	0.0003	34.94	25.46	0.0	0.000312
0.07	10.0	90.0	0.07	0.0003	34.96	25.43	0.0	0.000312
0.07	12.0	90.0	0.07	0.0003	34.96	25.41	0.0	0.000312
0.07	14.0	90.0	0.07	0.0003	34.96	25.41	0.0	0.000312

Kailua_min8.txt

0.07	16.0	0.07	90.0	34.95	25.39	0.0	0.000312
	90.0	0.0003					
0.07	18.0	0.07	90.0	34.96	25.38	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	34.96	25.38	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	34.95	25.38	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	34.96	25.38	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	34.96	25.38	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	34.96	25.38	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	34.95	25.38	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	34.96	25.38	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	34.95	25.38	0.0	0.000312
	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
19.35	28.04						
Froude number:	7.804						
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	()	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.262	67.3	1.475	-0.247	0.359
40	105.4	0.07	10.59	45.29	2.182	-0.584	0.868
60	105.3	0.07	15.31	30.48	3.232	-1.028	1.576
80	105.1	0.07	21.77	20.51	4.793	-1.587	2.539
100	104.6	0.07	30.03	13.8	7.111	-2.249	3.802
120	103.7	0.07	39.98	9.289	10.56	-2.923	5.275
140	102.4	0.07	51.92	6.251	15.68	-3.536	6.865
160	100.6	0.07	66.57	4.207	23.29	-4.079	8.607
180	98.28	0.07	84.86	2.831	34.59	-4.56	10.59
200	95.41	0.07	107.8	1.905	51.39	-4.988	12.93
215	92.84	0.07	128.8	1.415	69.16	-5.278	15.02
220	91.68	0.07	137.5	1.282	76.35	-5.388	15.95
240	85.38	0.07	189.2	0.863	113.4	-5.854	20.84
260	75.62	0.07	273.2	0.58	168.6	-6.333	28.02
280	60.81	0.07	403.9	0.39	250.5	-6.819	38.53
0.0178							axial vel
285	56.02	0.07	444.7	0.354	276.5	-6.942	41.86; max dilution
reached							
300	38.56	0.07	606.2	0.263	372.2	-7.31	53.96;
313	19.06	0.07	820.4	0.203	481.4	-7.633	67.86; axial vel
0.107 (trap1) surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						173.64
m	conc	dilutn	width	distnce	time		
	(ppm)		(m)	(m)	(hrs)	(ppm)	(m/s) (m ^{0.67} /s ²)
0.20229	483.0	174.8	25.0	0.0166	0.0	21.2	0.07 3.00E-4
0.2024	482.5	176.3	30.0	0.0365	0.0	21.2	0.07 3.00E-4
0.20241	482.2	177.7	35.0	0.0563	0.0	21.2	0.07 3.00E-4
0.20238	482.1	179.1	40.0	0.0761	0.0	21.2	0.07 3.00E-4
0.20234	482.0	180.4	45.0	0.096	0.0	21.2	0.07 3.00E-4
0.20229	481.9	181.8	50.0	0.116	0.0	21.2	0.07 3.00E-4
0.20223	481.8	183.2	55.0	0.136	0.0	21.2	0.07 3.00E-4
0.20216	481.8	184.5	60.0	0.156	0.0	21.2	0.07 3.00E-4
0.20209	481.7	185.9	65.0	0.175	0.0	21.2	0.07 3.00E-4
0.20202	481.7	187.2	70.0	0.195	0.0	21.2	0.07 3.00E-4
0.20194	481.7	188.5	75.0	0.215	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.20185	481.7	189.9	80.0	0.235	0.0	21.2	0.07	3.00E-4
0.20176	481.7	191.2	85.0	0.255	0.0	21.2	0.07	3.00E-4
0.20166	481.7	192.5	90.0	0.275	0.0	21.2	0.07	3.00E-4
0.20155	481.8	193.8	95.0	0.294	0.0	21.2	0.07	3.00E-4
0.20142	481.9	195.0	100.0	0.314	0.0	21.2	0.07	3.00E-4
0.20128	482.0	196.3	105.0	0.334	0.0	21.2	0.07	3.00E-4
0.20112	482.2	197.6	110.0	0.354	0.0	21.2	0.07	3.00E-4
0.20094	482.4	198.8	115.0	0.374	0.0	21.2	0.07	3.00E-4
0.20075	482.7	200.1	120.0	0.394	0.0	21.2	0.07	3.00E-4
0.20053	483.0	201.3	125.0	0.413	0.0	21.2	0.07	3.00E-4
0.20029	483.3	202.6	130.0	0.433	0.0	21.2	0.07	3.00E-4
0.20003	483.8	203.8	135.0	0.453	0.0	21.2	0.07	3.00E-4
0.19975	484.2	205.0	140.0	0.473	0.0	21.2	0.07	3.00E-4
0.19944	484.8	206.2	145.0	0.493	0.0	21.2	0.07	3.00E-4
0.19913	485.4	207.4	150.0	0.513	0.0	21.2	0.07	3.00E-4
0.19879	486.0	208.6	155.0	0.532	0.0	21.2	0.07	3.00E-4
0.19844	486.7	209.8	160.0	0.552	0.0	21.2	0.07	3.00E-4
0.19807	487.4	211.0	165.0	0.572	0.0	21.2	0.07	3.00E-4
0.19768	488.1	212.2	170.0	0.592	0.0	21.2	0.07	3.00E-4
0.19728	488.9	213.3	175.0	0.612	0.0	21.2	0.07	3.00E-4
0.19686	489.8	214.5	180.0	0.632	0.0	21.2	0.07	3.00E-4
0.19643	490.7	215.7	185.0	0.652	0.0	21.2	0.07	3.00E-4
0.19599	491.6	216.8	190.0	0.671	0.0	21.2	0.07	3.00E-4
0.19554	492.5	218.0	195.0	0.691	0.0	21.2	0.07	3.00E-4
0.19507	493.5	219.1	200.0	0.711	0.0	21.2	0.07	3.00E-4
0.19459	494.5	220.2	205.0	0.731	0.0	21.2	0.07	3.00E-4
0.1941	495.6	221.4	210.0	0.751	0.0	21.2	0.07	3.00E-4
0.1936	496.6	222.5	215.0	0.771	0.0	21.2	0.07	3.00E-4
0.1931	497.7	223.6	220.0	0.79	0.0	21.2	0.07	3.00E-4
0.19258	498.9	224.7	225.0	0.81	0.0	21.2	0.07	3.00E-4
0.19206	500.1	225.8	230.0	0.83	0.0	21.2	0.07	3.00E-4
0.19152	501.3	226.9	235.0	0.85	0.0	21.2	0.07	3.00E-4
0.19097	502.5	228.0	240.0	0.87	0.0	21.2	0.07	3.00E-4
0.19043	503.7	229.1	245.0	0.89	0.0	21.2	0.07	3.00E-4
0.18989	505.0	230.2	250.0	0.909	0.0	21.2	0.07	3.00E-4
0.18934	506.3	231.3	255.0	0.929	0.0	21.2	0.07	3.00E-4
0.18878	507.6	232.3	260.0	0.949	0.0	21.2	0.07	3.00E-4
0.18822	508.9	233.4	265.0	0.969	0.0	21.2	0.07	3.00E-4
0.18767	510.2	234.5	270.0	0.989	0.0	21.2	0.07	3.00E-4
0.18711	511.5	235.5	275.0	1.009	0.0	21.2	0.07	3.00E-4
0.18654	512.9	236.6	280.0	1.029	0.0	21.2	0.07	3.00E-4
0.18597	514.2	237.6	285.0	1.048	0.0	21.2	0.07	3.00E-4
0.1854	515.6	238.7	290.0	1.068	0.0	21.2	0.07	3.00E-4
0.18483	517.0	239.7	295.0	1.088	0.0	21.2	0.07	3.00E-4
0.18426	518.4	240.8	300.0	1.108	0.0	21.2	0.07	3.00E-4
0.18368	519.9	241.8	305.0	1.128	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 8; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
m/s	Far-dir	Dispnsn	deg	psu	C	kg/kg	s-1
	m	m/s	m0.67/s2				
0.07	0.0	0.07	90.0	34.95	25.92	0.0	0.000312
	90.0	0.0003					
0.07	2.0	0.07	90.0	34.9	25.87	0.0	0.000312
	90.0	0.0003					
0.07	4.0	0.07	90.0	34.94	25.61	0.0	0.000312
	90.0	0.0003					
0.07	6.0	0.07	90.0	34.95	25.53	0.0	0.000312
	90.0	0.0003					
0.07	8.0	0.07	90.0	34.94	25.46	0.0	0.000312

Kailua_min8.txt

0.07	90.0	0.0003						
0.07	10.0	0.07	90.0	34.96	25.43	0.0	0.000312	
0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	34.96	25.41	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	34.96	25.41	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	34.95	25.39	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	34.95	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	34.95	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	34.95	25.38	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
22.39	28.04							
Froude number:	9.031							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	()	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.272	67.3	1.475	-0.252	0.365	
40	105.4	0.07	10.63	45.29	2.182	-0.598	0.884	
60	105.4	0.07	15.44	30.48	3.232	-1.062	1.613	
80	105.2	0.07	22.11	20.51	4.793	-1.656	2.613	
100	104.7	0.07	30.91	13.8	7.111	-2.379	3.946	
120	103.9	0.07	41.69	9.289	10.56	-3.169	5.591	
140	102.5	0.07	54.59	6.251	15.68	-3.907	7.39	
160	100.6	0.07	70.29	4.207	23.29	-4.564	9.339	
180	98.19	0.07	89.78	2.831	34.59	-5.146	11.52	
200	95.13	0.07	114.2	1.905	51.39	-5.663	14.07	
211	93.15	0.07	130.2	1.532	63.89	-5.923	15.68	
220	90.82	0.07	147.0	1.282	76.35	-6.176	17.53	
240	83.51	0.07	204.8	0.863	113.4	-6.765	23.0	
260	72.22	0.07	297.8	0.58	168.6	-7.366	30.89	
277	58.08	0.07	415.1	0.414	236.0	-7.884	40.37	
0.0202	max dilution reached							
280	55.01	0.07	440.0	0.39	250.5	-7.975	42.38	
300	29.27	0.07	666.5	0.263	372.2	-8.59	59.21	
307	17.99	0.07	795.8	0.229	427.5	-8.808	66.88	
0.116	(trap1) surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						173.02	
m	conc	dilutn	width	distnce	time			
	(ppm)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)($m^{0.67}/s^2$)	
0.22784	428.8	174.3	25.0	0.0176	0.0	21.2	0.07 3.00E-4	
0.22795	428.4	175.7	30.0	0.0375	0.0	21.2	0.07 3.00E-4	
0.22796	428.2	177.1	35.0	0.0573	0.0	21.2	0.07 3.00E-4	
0.22793	428.1	178.5	40.0	0.0771	0.0	21.2	0.07 3.00E-4	
0.22788	428.0	179.9	45.0	0.097	0.0	21.2	0.07 3.00E-4	

Kailua_min8.txt

0.22782	427.9	181.3	50.0	0.117	0.0	21.2	0.07	3.00E-4
0.22775	427.8	182.6	55.0	0.137	0.0	21.2	0.07	3.00E-4
0.22768	427.8	184.0	60.0	0.157	0.0	21.2	0.07	3.00E-4
0.2276	427.8	185.3	65.0	0.176	0.0	21.2	0.07	3.00E-4
0.22751	427.7	186.6	70.0	0.196	0.0	21.2	0.07	3.00E-4
0.22743	427.7	188.0	75.0	0.216	0.0	21.2	0.07	3.00E-4
0.22733	427.7	189.3	80.0	0.236	0.0	21.2	0.07	3.00E-4
0.22723	427.7	190.6	85.0	0.256	0.0	21.2	0.07	3.00E-4
0.22711	427.7	191.9	90.0	0.276	0.0	21.2	0.07	3.00E-4
0.22698	427.8	193.2	95.0	0.295	0.0	21.2	0.07	3.00E-4
0.22684	427.9	194.5	100.0	0.315	0.0	21.2	0.07	3.00E-4
0.22668	428.0	195.7	105.0	0.335	0.0	21.2	0.07	3.00E-4
0.2265	428.2	197.0	110.0	0.355	0.0	21.2	0.07	3.00E-4
0.2263	428.4	198.2	115.0	0.375	0.0	21.2	0.07	3.00E-4
0.22607	428.6	199.5	120.0	0.395	0.0	21.2	0.07	3.00E-4
0.22583	428.9	200.7	125.0	0.414	0.0	21.2	0.07	3.00E-4
0.22555	429.2	202.0	130.0	0.434	0.0	21.2	0.07	3.00E-4
0.22526	429.6	203.2	135.0	0.454	0.0	21.2	0.07	3.00E-4
0.22493	430.1	204.4	140.0	0.474	0.0	21.2	0.07	3.00E-4
0.22459	430.5	205.6	145.0	0.494	0.0	21.2	0.07	3.00E-4
0.22423	431.1	206.8	150.0	0.514	0.0	21.2	0.07	3.00E-4
0.22385	431.6	208.0	155.0	0.533	0.0	21.2	0.07	3.00E-4
0.22345	432.2	209.2	160.0	0.553	0.0	21.2	0.07	3.00E-4
0.22303	432.9	210.4	165.0	0.573	0.0	21.2	0.07	3.00E-4
0.22259	433.5	211.6	170.0	0.593	0.0	21.2	0.07	3.00E-4
0.22213	434.2	212.7	175.0	0.613	0.0	21.2	0.07	3.00E-4
0.22166	435.0	213.9	180.0	0.633	0.0	21.2	0.07	3.00E-4
0.22117	435.8	215.0	185.0	0.653	0.0	21.2	0.07	3.00E-4
0.22067	436.6	216.2	190.0	0.672	0.0	21.2	0.07	3.00E-4
0.22016	437.4	217.3	195.0	0.692	0.0	21.2	0.07	3.00E-4
0.21963	438.3	218.5	200.0	0.712	0.0	21.2	0.07	3.00E-4
0.21908	439.3	219.6	205.0	0.732	0.0	21.2	0.07	3.00E-4
0.21854	440.2	220.7	210.0	0.752	0.0	21.2	0.07	3.00E-4
0.21797	441.1	221.8	215.0	0.772	0.0	21.2	0.07	3.00E-4
0.2174	442.1	223.0	220.0	0.791	0.0	21.2	0.07	3.00E-4
0.21682	443.2	224.1	225.0	0.811	0.0	21.2	0.07	3.00E-4
0.21622	444.2	225.2	230.0	0.831	0.0	21.2	0.07	3.00E-4
0.21562	445.3	226.3	235.0	0.851	0.0	21.2	0.07	3.00E-4
0.215	446.4	227.4	240.0	0.871	0.0	21.2	0.07	3.00E-4
0.21439	447.5	228.5	245.0	0.891	0.0	21.2	0.07	3.00E-4
0.21377	448.6	229.5	250.0	0.91	0.0	21.2	0.07	3.00E-4
0.21315	449.7	230.6	255.0	0.93	0.0	21.2	0.07	3.00E-4
0.21252	450.9	231.7	260.0	0.95	0.0	21.2	0.07	3.00E-4
0.21188	452.1	232.8	265.0	0.97	0.0	21.2	0.07	3.00E-4
0.21126	453.2	233.8	270.0	0.99	0.0	21.2	0.07	3.00E-4
0.21063	454.4	234.9	275.0	1.01	0.0	21.2	0.07	3.00E-4
0.20999	455.6	235.9	280.0	1.03	0.0	21.2	0.07	3.00E-4
0.20935	456.8	237.0	285.0	1.049	0.0	21.2	0.07	3.00E-4
0.20871	458.1	238.0	290.0	1.069	0.0	21.2	0.07	3.00E-4
0.20806	459.3	239.1	295.0	1.089	0.0	21.2	0.07	3.00E-4
0.20741	460.6	240.1	300.0	1.109	0.0	21.2	0.07	3.00E-4
0.20676	461.9	241.1	305.0	1.129	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 9; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
m/s	Far-dir	Disprsn	deg	psu	c	kg/kg	s-1	
m/s	deg	m/s	deg					
0.07	0.0	0.07	90.0	35.1	25.71	0.0	0.000312	
	2.0	0.07	90.0	35.11	25.71	0.0	0.000312	

Kailua_min8.txt

0.07	90.0	0.0003						
0.07	4.0	0.07	90.0	35.1	25.72	0.0	0.000312	
0.07	90.0	0.0003						
0.07	6.0	0.07	90.0	35.1	25.72	0.0	0.000312	
0.07	90.0	0.0003						
0.07	8.0	0.07	90.0	35.1	25.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	10.0	0.07	90.0	35.1	25.72	0.0	0.000312	
0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.11	25.72	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.11	25.71	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.11	25.72	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.11	25.71	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.11	25.71	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.11	25.71	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.11	25.71	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.12	25.71	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.12	25.71	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.11	25.71	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.11	25.62	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.11	25.57	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
16.59	28.04							
Froude number:	6.685							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.249	67.3	1.475	-0.242	0.353;	
40	105.4	0.07	10.54	45.29	2.182	-0.568	0.849;	
60	105.3	0.07	15.15	30.48	3.232	-0.99	1.533;	
80	105.0	0.07	21.32	20.51	4.793	-1.509	2.453;	
100	104.5	0.07	28.97	13.8	7.111	-2.096	3.62;	
120	103.6	0.07	38.09	9.289	10.56	-2.658	4.916;	
140	102.3	0.07	49.14	6.251	15.68	-3.16	6.316;	
160	100.6	0.07	62.83	4.207	23.28	-3.604	7.872;	
180	98.42	0.07	80.01	2.831	34.59	-3.998	9.674;	
200	95.77	0.07	101.6	1.905	51.39	-4.349	11.83;	
219	92.71	0.07	127.3	1.308	74.85	-4.648	14.35; merging,	
220	92.51	0.07	128.9	1.282	76.35	-4.664	14.51;	
240	87.14	0.07	174.8	0.863	113.4	-5.027	18.88;	
260	78.84	0.07	251.3	0.58	168.6	-5.406	25.41;	
280	66.27	0.07	372.1	0.391	250.5	-5.793	35.09;	
293	54.83	0.07	481.5	0.302	324.0	-6.049	43.79; axial vel	
0.022	max dilution reached							
300	47.31	0.07	554.7	0.263	372.2	-6.188	49.47;	
319	20.94	0.07	827.7	0.18	542.2	-6.566	69.52; axial vel	
0.0958	(trap1)surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						173.83	
m	conc	dilutn	width	distnce	time			

					Kailua_min8.txt			
(ppm)	(m)	(m)	(hrs)	(ppm)	(1y/hr)	(m/s)	(m0.67/s2)	
0.17959	544.0	174.9	25.0	0.0148	0.0	21.2	0.07	3.00E-4
0.1797	543.4	176.3	30.0	0.0346	0.0	21.2	0.07	3.00E-4
0.17972	543.1	177.7	35.0	0.0544	0.0	21.2	0.07	3.00E-4
0.1797	542.9	179.1	40.0	0.0743	0.0	21.2	0.07	3.00E-4
0.17966	542.8	180.5	45.0	0.0941	0.0	21.2	0.07	3.00E-4
0.17961	542.7	181.9	50.0	0.114	0.0	21.2	0.07	3.00E-4
0.17956	542.6	183.3	55.0	0.134	0.0	21.2	0.07	3.00E-4
0.1795	542.5	184.6	60.0	0.154	0.0	21.2	0.07	3.00E-4
0.17944	542.5	186.0	65.0	0.173	0.0	21.2	0.07	3.00E-4
0.17938	542.5	187.3	70.0	0.193	0.0	21.2	0.07	3.00E-4
0.17931	542.4	188.6	75.0	0.213	0.0	21.2	0.07	3.00E-4
0.17923	542.4	189.9	80.0	0.233	0.0	21.2	0.07	3.00E-4
0.17915	542.4	191.2	85.0	0.253	0.0	21.2	0.07	3.00E-4
0.17906	542.5	192.5	90.0	0.273	0.0	21.2	0.07	3.00E-4
0.17896	542.5	193.8	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.17885	542.6	195.1	100.0	0.312	0.0	21.2	0.07	3.00E-4
0.17873	542.8	196.4	105.0	0.332	0.0	21.2	0.07	3.00E-4
0.17859	543.0	197.7	110.0	0.352	0.0	21.2	0.07	3.00E-4
0.17843	543.2	198.9	115.0	0.372	0.0	21.2	0.07	3.00E-4
0.17826	543.5	200.2	120.0	0.392	0.0	21.2	0.07	3.00E-4
0.17807	543.9	201.4	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.17786	544.3	202.6	130.0	0.431	0.0	21.2	0.07	3.00E-4
0.17764	544.7	203.9	135.0	0.451	0.0	21.2	0.07	3.00E-4
0.17739	545.3	205.1	140.0	0.471	0.0	21.2	0.07	3.00E-4
0.17711	545.9	206.3	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.17684	546.5	207.5	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.17654	547.2	208.7	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.17623	548.0	209.9	160.0	0.55	0.0	21.2	0.07	3.00E-4
0.1759	548.8	211.1	165.0	0.57	0.0	21.2	0.07	3.00E-4
0.17556	549.6	212.3	170.0	0.59	0.0	21.2	0.07	3.00E-4
0.1752	550.5	213.4	175.0	0.61	0.0	21.2	0.07	3.00E-4
0.17483	551.4	214.6	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.17445	552.4	215.8	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.17406	553.4	216.9	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.17366	554.5	218.1	195.0	0.689	0.0	21.2	0.07	3.00E-4
0.17325	555.6	219.2	200.0	0.709	0.0	21.2	0.07	3.00E-4
0.17282	556.8	220.3	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.17239	557.9	221.5	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.17195	559.1	222.6	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.1715	560.4	223.7	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.17105	561.7	224.8	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.17058	563.0	225.9	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.17011	564.3	227.0	235.0	0.848	0.0	21.2	0.07	3.00E-4
0.16962	565.7	228.1	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.16914	567.1	229.2	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.16866	568.5	230.3	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.16817	569.9	231.4	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.16768	571.4	232.5	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.16718	572.9	233.5	265.0	0.967	0.0	21.2	0.07	3.00E-4
0.16668	574.4	234.6	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.16619	575.8	235.7	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.16569	577.4	236.7	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.16519	578.9	237.8	285.0	1.046	0.0	21.2	0.07	3.00E-4
0.16468	580.4	238.8	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.16418	582.0	239.9	295.0	1.086	0.0	21.2	0.07	3.00E-4
0.16367	583.6	240.9	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.16316	585.2	241.9	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 10; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

----- Depth Amb-cur Amb-dir Amb-sal Amb-tem Amb-pol Solar rad

Kailua_min8.txt								
Far-spd m/s	Far-dir deg	Dispnsn m/s ^{0.67/s²}	deg	psu	c	kg/kg	s-1	
0.07	0.0	0.07	90.0	35.1	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.1	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.1	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.1	25.73	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.1	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.11	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.11	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.12	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.12	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.11	25.62	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.11	25.57	0.0	0.000312	
	90.0	0.0003						
0.07	Ttl-flo (MGD)	Temp (C)						
	19.89	28.04						
Froude number:	8.014							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.264	67.3	1.475	-0.248	0.36;	
40	105.4	0.07	10.6	45.29	2.182	-0.587	0.871;	
60	105.3	0.07	15.34	30.48	3.232	-1.035	1.583;	
80	105.1	0.07	21.84	20.51	4.793	-1.601	2.553;	
100	104.6	0.07	30.2	13.8	7.111	-2.274	3.83;	
120	103.7	0.07	40.3	9.289	10.56	-2.97	5.336;	
140	102.4	0.07	52.42	6.251	15.68	-3.604	6.962;	
160	100.6	0.07	67.29	4.207	23.28	-4.167	8.741;	
180	98.26	0.07	85.87	2.831	34.59	-4.667	10.76;	
200	95.37	0.07	109.2	1.905	51.39	-5.111	13.15;	
214	92.96	0.07	129.0	1.444	67.8	-5.393	15.11; merging,	
220	91.55	0.07	139.6	1.282	76.35	-5.533	16.26;	
240	85.07	0.07	192.9	0.863	113.4	-6.023	21.3;	
260	75.08	0.07	280.5	0.58	168.6	-6.527	28.67;	
280	59.9	0.07	416.1	0.39	250.5	-7.042	39.51; axial vel	
0.0186	283	57.03	0.07	441.7	0.368	265.8	-7.12	41.53; max dilution

Kailua_min8.txt

reached

300	36.98	0.07	621.3	0.263	372.2	-7.564	55.5;
312	18.38	0.07	806.9	0.207	472.0	-7.879	68.56; axial vel

0.114 (trap1)surface,
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 173.30
m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s) (m ^{0.67} /s ²)
0.20632	473.5	174.4	25.0	0.0157	0.0	21.2	0.07 3.00E-4
0.20644	473.0	175.9	30.0	0.0356	0.0	21.2	0.07 3.00E-4
0.20646	472.8	177.3	35.0	0.0554	0.0	21.2	0.07 3.00E-4
0.20643	472.6	178.7	40.0	0.0753	0.0	21.2	0.07 3.00E-4
0.20639	472.5	180.0	45.0	0.0951	0.0	21.2	0.07 3.00E-4
0.20633	472.4	181.4	50.0	0.115	0.0	21.2	0.07 3.00E-4
0.20627	472.4	182.8	55.0	0.135	0.0	21.2	0.07 3.00E-4
0.2062	472.3	184.1	60.0	0.155	0.0	21.2	0.07 3.00E-4
0.20613	472.3	185.5	65.0	0.174	0.0	21.2	0.07 3.00E-4
0.20606	472.2	186.8	70.0	0.194	0.0	21.2	0.07 3.00E-4
0.20598	472.2	188.1	75.0	0.214	0.0	21.2	0.07 3.00E-4
0.20589	472.2	189.5	80.0	0.234	0.0	21.2	0.07 3.00E-4
0.2058	472.2	190.8	85.0	0.254	0.0	21.2	0.07 3.00E-4
0.2057	472.3	192.1	90.0	0.274	0.0	21.2	0.07 3.00E-4
0.20558	472.3	193.3	95.0	0.294	0.0	21.2	0.07 3.00E-4
0.20545	472.4	194.6	100.0	0.313	0.0	21.2	0.07 3.00E-4
0.20531	472.5	195.9	105.0	0.333	0.0	21.2	0.07 3.00E-4
0.20515	472.7	197.2	110.0	0.353	0.0	21.2	0.07 3.00E-4
0.20497	472.9	198.4	115.0	0.373	0.0	21.2	0.07 3.00E-4
0.20477	473.2	199.7	120.0	0.393	0.0	21.2	0.07 3.00E-4
0.20455	473.5	200.9	125.0	0.413	0.0	21.2	0.07 3.00E-4
0.2043	473.9	202.1	130.0	0.432	0.0	21.2	0.07 3.00E-4
0.20404	474.3	203.4	135.0	0.452	0.0	21.2	0.07 3.00E-4
0.20375	474.7	204.6	140.0	0.472	0.0	21.2	0.07 3.00E-4
0.20344	475.3	205.8	145.0	0.492	0.0	21.2	0.07 3.00E-4
0.20311	475.8	207.0	150.0	0.512	0.0	21.2	0.07 3.00E-4
0.20277	476.4	208.2	155.0	0.532	0.0	21.2	0.07 3.00E-4
0.20241	477.1	209.4	160.0	0.551	0.0	21.2	0.07 3.00E-4
0.20203	477.8	210.6	165.0	0.571	0.0	21.2	0.07 3.00E-4
0.20164	478.5	211.7	170.0	0.591	0.0	21.2	0.07 3.00E-4
0.20123	479.3	212.9	175.0	0.611	0.0	21.2	0.07 3.00E-4
0.2008	480.2	214.1	180.0	0.631	0.0	21.2	0.07 3.00E-4
0.20036	481.0	215.2	185.0	0.651	0.0	21.2	0.07 3.00E-4
0.19991	481.9	216.4	190.0	0.67	0.0	21.2	0.07 3.00E-4
0.19945	482.8	217.5	195.0	0.69	0.0	21.2	0.07 3.00E-4
0.19897	483.8	218.7	200.0	0.71	0.0	21.2	0.07 3.00E-4
0.19848	484.8	219.8	205.0	0.73	0.0	21.2	0.07 3.00E-4
0.19798	485.8	220.9	210.0	0.75	0.0	21.2	0.07 3.00E-4
0.19748	486.9	222.1	215.0	0.77	0.0	21.2	0.07 3.00E-4
0.19696	488.0	223.2	220.0	0.79	0.0	21.2	0.07 3.00E-4
0.19643	489.1	224.3	225.0	0.809	0.0	21.2	0.07 3.00E-4
0.1959	490.3	225.4	230.0	0.829	0.0	21.2	0.07 3.00E-4
0.19535	491.4	226.5	235.0	0.849	0.0	21.2	0.07 3.00E-4
0.19479	492.7	227.6	240.0	0.869	0.0	21.2	0.07 3.00E-4
0.19424	493.9	228.7	245.0	0.889	0.0	21.2	0.07 3.00E-4
0.19368	495.1	229.8	250.0	0.909	0.0	21.2	0.07 3.00E-4
0.19312	496.4	230.8	255.0	0.928	0.0	21.2	0.07 3.00E-4
0.19255	497.6	231.9	260.0	0.948	0.0	21.2	0.07 3.00E-4
0.19198	498.9	233.0	265.0	0.968	0.0	21.2	0.07 3.00E-4
0.19141	500.2	234.0	270.0	0.988	0.0	21.2	0.07 3.00E-4
0.19084	501.5	235.1	275.0	1.008	0.0	21.2	0.07 3.00E-4
0.19026	502.8	236.2	280.0	1.028	0.0	21.2	0.07 3.00E-4
0.18968	504.2	237.2	285.0	1.047	0.0	21.2	0.07 3.00E-4
0.1891	505.5	238.2	290.0	1.067	0.0	21.2	0.07 3.00E-4
0.18852	506.9	239.3	295.0	1.087	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.18793	508.3	240.3	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.18734	509.7	241.4	305.0	1.127	0.0	21.2	0.07	3.00E-4
count: 57								
/ Windows UM3.								
Case 11; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:								
Far-spd m/s	Depth m	Amb-cur m/s	Amb-dir deg	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1	
Far-dir deg	Dispnsn m0.67/s2							
0.07	0.0	0.07	90.0	35.1	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.1	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.1	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.1	25.73	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.1	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.11	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.11	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.12	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.12	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.11	25.62	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.11	25.57	0.0	0.000312	
	90.0	0.0003						
Ttl-flo (MGD)	Temp (C)							
17.95	28.04							

Froude number: 7.233

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.256	67.3	1.475	-0.245	0.356
40	105.4	0.07	10.57	45.29	2.182	-0.577	0.859
60	105.3	0.07	15.24	30.48	3.232	-1.01	1.556
80	105.1	0.07	21.56	20.51	4.793	-1.55	2.498
100	104.6	0.07	29.52	13.8	7.111	-2.176	3.717
120	103.6	0.07	39.06	9.289	10.56	-2.794	5.102
140	102.3	0.07	50.56	6.251	15.68	-3.35	6.595
160	100.6	0.07	64.74	4.207	23.28	-3.842	8.242
180	98.34	0.07	82.51	2.831	34.59	-4.279	10.13
200	95.59	0.07	104.9	1.905	51.39	-4.668	12.39

				Kailua_min8.txt				
216	92.95	0.07	126.8	1.388	70.54	-4.949	14.55;	merging,
220	92.09	0.07	133.3	1.282	76.35	-5.026	15.25;	
240	86.26	0.07	182.4	0.863	113.4	-5.44	19.9;	
260	77.26	0.07	263.6	0.58	168.6	-5.868	26.78;	
280	63.61	0.07	390.7	0.391	250.5	-6.307	36.95;	
289	55.36	0.07	467.1	0.327	299.3	-6.507	43.0;	axial vel
0.0217	max dilution reached							
300	43.02	0.07	583.0	0.263	372.2	-6.752	52.0;	
316	19.68	0.07	819.9	0.191	510.9	-7.112	69.12;	axial vel
0.104	(trap1) surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of							173.63
m								

conc	dilutn	width	distnce	time				
(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)	(m ^{0.67} /s ²)
0.19059	512.6	174.7	25.0	0.0152	0.0	21.2	0.07	3.00E-4
0.19071	512.0	176.1	30.0	0.035	0.0	21.2	0.07	3.00E-4
0.19072	511.8	177.6	35.0	0.0548	0.0	21.2	0.07	3.00E-4
0.1907	511.6	178.9	40.0	0.0747	0.0	21.2	0.07	3.00E-4
0.19066	511.5	180.3	45.0	0.0945	0.0	21.2	0.07	3.00E-4
0.19061	511.4	181.7	50.0	0.114	0.0	21.2	0.07	3.00E-4
0.19056	511.3	183.1	55.0	0.134	0.0	21.2	0.07	3.00E-4
0.19049	511.3	184.4	60.0	0.154	0.0	21.2	0.07	3.00E-4
0.19043	511.2	185.8	65.0	0.174	0.0	21.2	0.07	3.00E-4
0.19036	511.2	187.1	70.0	0.194	0.0	21.2	0.07	3.00E-4
0.19029	511.1	188.4	75.0	0.214	0.0	21.2	0.07	3.00E-4
0.19021	511.1	189.8	80.0	0.233	0.0	21.2	0.07	3.00E-4
0.19012	511.1	191.1	85.0	0.253	0.0	21.2	0.07	3.00E-4
0.19003	511.2	192.4	90.0	0.273	0.0	21.2	0.07	3.00E-4
0.18992	511.2	193.7	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.1898	511.3	194.9	100.0	0.313	0.0	21.2	0.07	3.00E-4
0.18967	511.5	196.2	105.0	0.333	0.0	21.2	0.07	3.00E-4
0.18952	511.7	197.5	110.0	0.352	0.0	21.2	0.07	3.00E-4
0.18936	511.9	198.7	115.0	0.372	0.0	21.2	0.07	3.00E-4
0.18917	512.2	200.0	120.0	0.392	0.0	21.2	0.07	3.00E-4
0.18897	512.5	201.2	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.18875	512.9	202.5	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.18851	513.3	203.7	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.18824	513.8	204.9	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.18795	514.4	206.1	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.18765	515.0	207.3	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.18734	515.7	208.5	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.18701	516.4	209.7	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.18666	517.1	210.9	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.18629	517.9	212.1	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.18592	518.8	213.2	175.0	0.61	0.0	21.2	0.07	3.00E-4
0.18553	519.7	214.4	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.18512	520.6	215.6	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.18471	521.6	216.7	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.18428	522.6	217.9	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.18384	523.6	219.0	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.18339	524.7	220.1	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.18292	525.8	221.3	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.18246	526.9	222.4	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.18199	528.1	223.5	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.1815	529.3	224.6	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.18101	530.6	225.7	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.1805	531.8	226.8	235.0	0.848	0.0	21.2	0.07	3.00E-4
0.17998	533.2	227.9	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.17948	534.5	229.0	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.17896	535.8	230.1	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.17844	537.1	231.2	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.17792	538.5	232.3	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.17739	539.9	233.3	265.0	0.968	0.0	21.2	0.07	3.00E-4

Kailua_min8.txt								
0.17686	541.3	234.4	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.17634	542.7	235.4	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.17581	544.1	236.5	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.17528	545.6	237.6	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.17474	547.1	238.6	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.1742	548.5	239.6	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.17366	550.0	240.7	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.17312	551.6	241.7	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 12; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
		Far-dir deg	Disprsn m0.67/s2					
0.07	0.0	0.07	0.07	90.0	35.1	25.71	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	2.0	0.07	0.07	90.0	35.11	25.71	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	4.0	0.07	0.07	90.0	35.1	25.72	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	6.0	0.07	0.07	90.0	35.1	25.72	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	8.0	0.07	0.07	90.0	35.1	25.73	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	10.0	0.07	0.07	90.0	35.1	25.72	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	12.0	0.07	0.07	90.0	35.11	25.72	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	14.0	0.07	0.07	90.0	35.11	25.71	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	16.0	0.07	0.07	90.0	35.11	25.72	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	18.0	0.07	0.07	90.0	35.11	25.71	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	20.0	0.07	0.07	90.0	35.11	25.71	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	22.0	0.07	0.07	90.0	35.11	25.71	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	24.0	0.07	0.07	90.0	35.11	25.71	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	26.0	0.07	0.07	90.0	35.12	25.71	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	28.0	0.07	0.07	90.0	35.12	25.71	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	30.0	0.07	0.07	90.0	35.11	25.71	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	32.0	0.07	0.07	90.0	35.11	25.62	0.0	0.000312
0.07	90.0	0.0003	0.0003					
0.07	33.0	0.07	0.07	90.0	35.11	25.57	0.0	0.000312
0.07	90.0	0.0003	0.0003					
	Ttl-flo (MGD)	Temp (C)						
	29.61	28.04						

Froude number: 11.93

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.288	67.3	1.475	-0.259	0.373
40	105.4	0.07	10.69	45.29	2.182	-0.621	0.911
60	105.4	0.07	15.62	30.48	3.232	-1.117	1.673
80	105.3	0.07	22.61	20.51	4.793	-1.774	2.737

Kailua_min8.txt							
100	105.0	0.07	32.22	13.8	7.111	-2.605	4.186;
120	104.2	0.07	44.63	9.289	10.56	-3.597	6.097;
140	102.9	0.07	59.67	6.251	15.68	-4.628	8.358;
160	100.9	0.07	77.74	4.207	23.28	-5.573	10.81;
180	98.19	0.07	99.96	2.831	34.59	-6.412	13.48;
200	94.76	0.07	127.7	1.905	51.39	-7.158	16.52;
204	93.94	0.07	134.0	1.76	55.62	-7.303	17.21; merging,
220	88.86	0.07	168.5	1.282	76.35	-8.023	21.22;
240	79.24	0.07	239.5	0.863	113.4	-8.945	28.01;
260	64.44	0.07	353.8	0.58	168.6	-9.877	37.6;
263	61.63	0.07	375.5	0.547	178.9	-10.02	39.36; axial vel
0.0188	max dilution reached						
280	41.87	0.07	528.3	0.39	250.5	-10.82	51.41;
297	14.01	0.07	757.9	0.279	350.7	-11.64	68.03; axial vel
0.163	(trap1)surface,						
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of					172.06	
m							
conc	dilutn	width	distnce	time			
(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m0.67/s2)
0.27773	351.8	173.2	25.0	0.0157	0.0	21.2	0.07 3.00E-4
0.27789	351.5	174.6	30.0	0.0356	0.0	21.2	0.07 3.00E-4
0.27791	351.3	176.0	35.0	0.0554	0.0	21.2	0.07 3.00E-4
0.27788	351.2	177.4	40.0	0.0753	0.0	21.2	0.07 3.00E-4
0.27782	351.1	178.8	45.0	0.0951	0.0	21.2	0.07 3.00E-4
0.27774	351.0	180.1	50.0	0.115	0.0	21.2	0.07 3.00E-4
0.27766	351.0	181.5	55.0	0.135	0.0	21.2	0.07 3.00E-4
0.27757	350.9	182.9	60.0	0.155	0.0	21.2	0.07 3.00E-4
0.27747	350.9	184.2	65.0	0.174	0.0	21.2	0.07 3.00E-4
0.27737	350.9	185.5	70.0	0.194	0.0	21.2	0.07 3.00E-4
0.27726	350.9	186.9	75.0	0.214	0.0	21.2	0.07 3.00E-4
0.27715	350.9	188.2	80.0	0.234	0.0	21.2	0.07 3.00E-4
0.27702	350.9	189.5	85.0	0.254	0.0	21.2	0.07 3.00E-4
0.27688	350.9	190.8	90.0	0.274	0.0	21.2	0.07 3.00E-4
0.27673	350.9	192.1	95.0	0.294	0.0	21.2	0.07 3.00E-4
0.27655	351.0	193.3	100.0	0.313	0.0	21.2	0.07 3.00E-4
0.27636	351.1	194.6	105.0	0.333	0.0	21.2	0.07 3.00E-4
0.27614	351.2	195.9	110.0	0.353	0.0	21.2	0.07 3.00E-4
0.27589	351.4	197.1	115.0	0.373	0.0	21.2	0.07 3.00E-4
0.27562	351.6	198.4	120.0	0.393	0.0	21.2	0.07 3.00E-4
0.27532	351.8	199.6	125.0	0.413	0.0	21.2	0.07 3.00E-4
0.27499	352.1	200.8	130.0	0.432	0.0	21.2	0.07 3.00E-4
0.27463	352.4	202.0	135.0	0.452	0.0	21.2	0.07 3.00E-4
0.27422	352.8	203.3	140.0	0.472	0.0	21.2	0.07 3.00E-4
0.27381	353.2	204.5	145.0	0.492	0.0	21.2	0.07 3.00E-4
0.27337	353.6	205.7	150.0	0.512	0.0	21.2	0.07 3.00E-4
0.2729	354.1	206.9	155.0	0.532	0.0	21.2	0.07 3.00E-4
0.27241	354.6	208.0	160.0	0.551	0.0	21.2	0.07 3.00E-4
0.2719	355.1	209.2	165.0	0.571	0.0	21.2	0.07 3.00E-4
0.27136	355.7	210.4	170.0	0.591	0.0	21.2	0.07 3.00E-4
0.2708	356.2	211.6	175.0	0.611	0.0	21.2	0.07 3.00E-4
0.27022	356.9	212.7	180.0	0.631	0.0	21.2	0.07 3.00E-4
0.26962	357.5	213.9	185.0	0.651	0.0	21.2	0.07 3.00E-4
0.26902	358.2	215.0	190.0	0.67	0.0	21.2	0.07 3.00E-4
0.26839	358.9	216.2	195.0	0.69	0.0	21.2	0.07 3.00E-4
0.26774	359.6	217.3	200.0	0.71	0.0	21.2	0.07 3.00E-4
0.26707	360.4	218.4	205.0	0.73	0.0	21.2	0.07 3.00E-4
0.2664	361.1	219.6	210.0	0.75	0.0	21.2	0.07 3.00E-4
0.26571	361.9	220.7	215.0	0.77	0.0	21.2	0.07 3.00E-4
0.26501	362.7	221.8	220.0	0.79	0.0	21.2	0.07 3.00E-4
0.26429	363.6	222.9	225.0	0.809	0.0	21.2	0.07 3.00E-4
0.26357	364.4	224.0	230.0	0.829	0.0	21.2	0.07 3.00E-4
0.26283	365.3	225.1	235.0	0.849	0.0	21.2	0.07 3.00E-4
0.26207	366.2	226.2	240.0	0.869	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.26132	367.2	227.3	245.0	0.889	0.0	21.2	0.07	3.00E-4
0.26057	368.1	228.3	250.0	0.909	0.0	21.2	0.07	3.00E-4
0.2598	369.0	229.4	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.25903	370.0	230.5	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.25826	370.9	231.6	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.2575	371.9	232.6	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.25672	372.9	233.7	275.0	1.008	0.0	21.2	0.07	3.00E-4
0.25594	373.9	234.7	280.0	1.028	0.0	21.2	0.07	3.00E-4
0.25516	374.9	235.8	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.25437	375.9	236.8	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.25358	376.9	237.8	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.25279	378.0	238.9	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.25199	379.0	239.9	305.0	1.127	0.0	21.2	0.07	3.00E-4

count: 57
 / Windows UM3.
 Case 13; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur		Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
		Far-dir deg	Disprsn m/s ^{0.67} /s ²	deg	psu	C	kg/kg	s-1
0.07	0.0	0.07	0.0003	90.0	35.19	22.84	0.0	0.000312
0.07	2.0	0.07	0.0003	90.0	35.19	22.85	0.0	0.000312
0.07	4.0	0.07	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	6.0	0.07	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	8.0	0.07	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	10.0	0.07	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	12.0	0.07	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	14.0	0.07	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	16.0	0.07	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	18.0	0.07	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	20.0	0.07	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	22.0	0.07	0.0003	90.0	35.2	22.86	0.0	0.000312
0.07	24.0	0.07	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	26.0	0.07	0.0003	90.0	35.2	22.86	0.0	0.000312
0.07	28.0	0.07	0.0003	90.0	35.2	22.88	0.0	0.000312
0.07	30.0	0.07	0.0003	90.0	35.2	22.88	0.0	0.000312
0.07	32.0	0.07	0.0003	90.0	35.2	22.88	0.0	0.000312
0.07	33.0	0.07	0.0003	90.0	35.2	22.88	0.0	0.000312
0.07	90.0	0.0003						
	Ttl-flo (MGD)	Temp (C)						
	27.49	28.04						
Froude number:		10.86						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	

Kailua_min8.txt							
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.283	67.3	1.475	-0.257	0.371;
40	105.4	0.07	10.68	45.29	2.181	-0.615	0.903;
60	105.4	0.07	15.57	30.48	3.23	-1.103	1.657;
80	105.2	0.07	22.48	20.51	4.789	-1.743	2.704;
100	104.9	0.07	31.86	13.8	7.106	-2.544	4.121;
120	104.1	0.07	43.75	9.289	10.55	-3.481	5.961;
140	102.7	0.07	58.0	6.251	15.66	-4.417	8.067;
160	100.7	0.07	75.14	4.207	23.26	-5.262	10.33;
180	98.01	0.07	96.24	2.831	34.56	-6.011	12.82;
200	94.63	0.07	122.6	1.905	51.34	-6.675	15.66;
206	93.45	0.07	131.8	1.692	57.82	-6.859	16.6; merging,
220	89.25	0.07	160.2	1.282	76.28	-7.398	19.82;
240	80.28	0.07	225.6	0.863	113.3	-8.195	26.06;
260	66.46	0.07	329.6	0.58	168.4	-9.002	34.9;
267	60.07	0.07	378.6	0.505	193.4	-9.285	38.82; axial vel
0.0195 max dilution reached							
280	45.44	0.07	491.5	0.39	250.2	-9.815	47.61;
300	13.6	0.07	733.9	0.263	371.8	-10.64	66.16; axial vel
0.166 (trap1) surface,							
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 171.45 m							
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
(ppm)	(m)	(m)	(m)	(hrs)			
0.26174	373.0	172.7	25.0	0.0182	0.0	21.2	0.07 3.00E-4
0.26187	372.6	174.2	30.0	0.038	0.0	21.2	0.07 3.00E-4
0.26188	372.4	175.6	35.0	0.0578	0.0	21.2	0.07 3.00E-4
0.26185	372.3	176.9	40.0	0.0777	0.0	21.2	0.07 3.00E-4
0.26179	372.2	178.3	45.0	0.0975	0.0	21.2	0.07 3.00E-4
0.26172	372.2	179.7	50.0	0.117	0.0	21.2	0.07 3.00E-4
0.26164	372.1	181.1	55.0	0.137	0.0	21.2	0.07 3.00E-4
0.26155	372.1	182.4	60.0	0.157	0.0	21.2	0.07 3.00E-4
0.26146	372.1	183.7	65.0	0.177	0.0	21.2	0.07 3.00E-4
0.26136	372.0	185.1	70.0	0.197	0.0	21.2	0.07 3.00E-4
0.26126	372.0	186.4	75.0	0.217	0.0	21.2	0.07 3.00E-4
0.26115	372.0	187.7	80.0	0.236	0.0	21.2	0.07 3.00E-4
0.26103	372.0	189.0	85.0	0.256	0.0	21.2	0.07 3.00E-4
0.2609	372.0	190.3	90.0	0.276	0.0	21.2	0.07 3.00E-4
0.26075	372.1	191.6	95.0	0.296	0.0	21.2	0.07 3.00E-4
0.26058	372.2	192.8	100.0	0.316	0.0	21.2	0.07 3.00E-4
0.26039	372.3	194.1	105.0	0.336	0.0	21.2	0.07 3.00E-4
0.26018	372.4	195.4	110.0	0.355	0.0	21.2	0.07 3.00E-4
0.25994	372.6	196.6	115.0	0.375	0.0	21.2	0.07 3.00E-4
0.25968	372.8	197.9	120.0	0.395	0.0	21.2	0.07 3.00E-4
0.25939	373.1	199.1	125.0	0.415	0.0	21.2	0.07 3.00E-4
0.25908	373.4	200.3	130.0	0.435	0.0	21.2	0.07 3.00E-4
0.25873	373.7	201.5	135.0	0.455	0.0	21.2	0.07 3.00E-4
0.25835	374.1	202.7	140.0	0.475	0.0	21.2	0.07 3.00E-4
0.25795	374.6	204.0	145.0	0.494	0.0	21.2	0.07 3.00E-4
0.25753	375.0	205.2	150.0	0.514	0.0	21.2	0.07 3.00E-4
0.25709	375.5	206.3	155.0	0.534	0.0	21.2	0.07 3.00E-4
0.25662	376.0	207.5	160.0	0.554	0.0	21.2	0.07 3.00E-4
0.25613	376.6	208.7	165.0	0.574	0.0	21.2	0.07 3.00E-4
0.25562	377.2	209.9	170.0	0.594	0.0	21.2	0.07 3.00E-4
0.25509	377.8	211.0	175.0	0.613	0.0	21.2	0.07 3.00E-4
0.25454	378.5	212.2	180.0	0.633	0.0	21.2	0.07 3.00E-4
0.25397	379.2	213.3	185.0	0.653	0.0	21.2	0.07 3.00E-4
0.2534	379.9	214.5	190.0	0.673	0.0	21.2	0.07 3.00E-4
0.2528	380.7	215.6	195.0	0.693	0.0	21.2	0.07 3.00E-4
0.25218	381.4	216.8	200.0	0.713	0.0	21.2	0.07 3.00E-4
0.25155	382.3	217.9	205.0	0.732	0.0	21.2	0.07 3.00E-4
0.25092	383.1	219.0	210.0	0.752	0.0	21.2	0.07 3.00E-4
0.25026	383.9	220.1	215.0	0.772	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt								
0.2496	384.8	221.2	220.0	0.792	0.0	21.2	0.07	3.00E-4
0.24892	385.7	222.3	225.0	0.812	0.0	21.2	0.07	3.00E-4
0.24823	386.6	223.4	230.0	0.832	0.0	21.2	0.07	3.00E-4
0.24752	387.6	224.5	235.0	0.851	0.0	21.2	0.07	3.00E-4
0.24682	388.5	225.6	240.0	0.871	0.0	21.2	0.07	3.00E-4
0.24611	389.5	226.7	245.0	0.891	0.0	21.2	0.07	3.00E-4
0.2454	390.5	227.8	250.0	0.911	0.0	21.2	0.07	3.00E-4
0.24468	391.5	228.9	255.0	0.931	0.0	21.2	0.07	3.00E-4
0.24395	392.5	229.9	260.0	0.951	0.0	21.2	0.07	3.00E-4
0.24322	393.5	231.0	265.0	0.971	0.0	21.2	0.07	3.00E-4
0.2425	394.5	232.0	270.0	0.99	0.0	21.2	0.07	3.00E-4
0.24177	395.6	233.1	275.0	1.01	0.0	21.2	0.07	3.00E-4
0.24103	396.7	234.1	280.0	1.03	0.0	21.2	0.07	3.00E-4
0.24029	397.7	235.2	285.0	1.05	0.0	21.2	0.07	3.00E-4
0.23954	398.8	236.2	290.0	1.07	0.0	21.2	0.07	3.00E-4
0.2388	399.9	237.3	295.0	1.09	0.0	21.2	0.07	3.00E-4
0.23805	401.0	238.3	300.0	1.109	0.0	21.2	0.07	3.00E-4
0.2373	402.1	239.3	305.0	1.129	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 14; ambient file C:\Plumes\kailua_min8.001.db; diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	solar	rad
m/s	Far-dir	Disprsn	deg	psu	c	kg/kg		s-1
m/s	deg	m/s ^{0.67} /s ²						
0.07	0.0	0.07	90.0	35.19	22.84	0.0	0.000312	
0.07	2.0	0.07	90.0	35.19	22.85	0.0	0.000312	
0.07	4.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	6.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	8.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	10.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	12.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	14.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	16.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	18.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	20.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	22.0	0.07	90.0	35.2	22.86	0.0	0.000312	
0.07	24.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	26.0	0.07	90.0	35.2	22.86	0.0	0.000312	
0.07	28.0	0.07	90.0	35.2	22.88	0.0	0.000312	
0.07	30.0	0.07	90.0	35.2	22.88	0.0	0.000312	
0.07	32.0	0.07	90.0	35.2	22.88	0.0	0.000312	
0.07	33.0	0.07	90.0	35.2	22.88	0.0	0.000312	
0.07	Ttl-flo	Temp						

Kailua_min8.txt

(MGD) (C)
17.72 28.04

Froude number: 7.0

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.254	67.3	1.475	-0.244	0.355
40	105.4	0.07	10.56	45.29	2.181	-0.575	0.857
60	105.3	0.07	15.22	30.48	3.23	-1.006	1.551
80	105.1	0.07	21.48	20.51	4.789	-1.541	2.487
100	104.5	0.07	29.32	13.8	7.106	-2.157	3.69
120	103.6	0.07	38.67	9.289	10.55	-2.758	5.042
140	102.2	0.07	49.94	6.251	15.66	-3.296	6.498
160	100.5	0.07	63.85	4.207	23.26	-3.772	8.104
180	98.23	0.07	81.25	2.831	34.56	-4.195	9.949
200	95.44	0.07	103.1	1.905	51.34	-4.571	12.15
218	92.4	0.07	127.7	1.334	73.32	-4.873	14.54
220	91.97	0.07	131.0	1.282	76.28	-4.91	14.88
240	86.21	0.07	178.3	0.863	113.3	-5.304	19.36
260	77.29	0.07	256.2	0.58	168.4	-5.713	25.99
280	63.7	0.07	376.2	0.391	250.2	-6.129	35.76
289	55.55	0.07	450.7	0.327	299.1	-6.317	41.53
0.0214	max dilution reached						
300	43.3	0.07	562.0	0.263	371.8	-6.549	50.14
317	18.06	0.07	789.6	0.188	520.6	-6.91	67.73

0.115 (trap1)surface,
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 172.86
m

conc (ppm)	dilutn (%)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.18688	522.3	174.1	25.0	0.0169	0.0	21.2	0.07 3.00E-4
0.18698	521.8	175.5	30.0	0.0367	0.0	21.2	0.07 3.00E-4
0.18699	521.5	176.9	35.0	0.0565	0.0	21.2	0.07 3.00E-4
0.18697	521.3	178.3	40.0	0.0764	0.0	21.2	0.07 3.00E-4
0.18693	521.2	179.7	45.0	0.0962	0.0	21.2	0.07 3.00E-4
0.18688	521.1	181.0	50.0	0.116	0.0	21.2	0.07 3.00E-4
0.18682	521.1	182.4	55.0	0.136	0.0	21.2	0.07 3.00E-4
0.18676	521.0	183.8	60.0	0.156	0.0	21.2	0.07 3.00E-4
0.1867	521.0	185.1	65.0	0.176	0.0	21.2	0.07 3.00E-4
0.18663	520.9	186.4	70.0	0.195	0.0	21.2	0.07 3.00E-4
0.18655	520.9	187.8	75.0	0.215	0.0	21.2	0.07 3.00E-4
0.18648	520.9	189.1	80.0	0.235	0.0	21.2	0.07 3.00E-4
0.18639	520.9	190.4	85.0	0.255	0.0	21.2	0.07 3.00E-4
0.1863	520.9	191.7	90.0	0.275	0.0	21.2	0.07 3.00E-4
0.18619	521.0	193.0	95.0	0.295	0.0	21.2	0.07 3.00E-4
0.18607	521.1	194.2	100.0	0.314	0.0	21.2	0.07 3.00E-4
0.18594	521.3	195.5	105.0	0.334	0.0	21.2	0.07 3.00E-4
0.18579	521.5	196.8	110.0	0.354	0.0	21.2	0.07 3.00E-4
0.18563	521.7	198.0	115.0	0.374	0.0	21.2	0.07 3.00E-4
0.18545	522.0	199.3	120.0	0.394	0.0	21.2	0.07 3.00E-4
0.18525	522.3	200.5	125.0	0.414	0.0	21.2	0.07 3.00E-4
0.18502	522.7	201.7	130.0	0.434	0.0	21.2	0.07 3.00E-4
0.18478	523.2	203.0	135.0	0.453	0.0	21.2	0.07 3.00E-4
0.18451	523.8	204.2	140.0	0.473	0.0	21.2	0.07 3.00E-4
0.18423	524.3	205.4	145.0	0.493	0.0	21.2	0.07 3.00E-4
0.18394	525.0	206.6	150.0	0.513	0.0	21.2	0.07 3.00E-4
0.18363	525.6	207.8	155.0	0.533	0.0	21.2	0.07 3.00E-4
0.1833	526.4	209.0	160.0	0.553	0.0	21.2	0.07 3.00E-4
0.18295	527.1	210.2	165.0	0.572	0.0	21.2	0.07 3.00E-4
0.18259	528.0	211.3	170.0	0.592	0.0	21.2	0.07 3.00E-4
0.18222	528.8	212.5	175.0	0.612	0.0	21.2	0.07 3.00E-4
0.18183	529.8	213.7	180.0	0.632	0.0	21.2	0.07 3.00E-4
0.18143	530.7	214.8	185.0	0.652	0.0	21.2	0.07 3.00E-4

					Kailua_min8.txt			
0.18103	531.7	216.0	190.0	0.672	0.0	21.2	0.07	3.00E-4
0.1806	532.7	217.1	195.0	0.691	0.0	21.2	0.07	3.00E-4
0.18017	533.8	218.3	200.0	0.711	0.0	21.2	0.07	3.00E-4
0.17972	534.9	219.4	205.0	0.731	0.0	21.2	0.07	3.00E-4
0.17927	536.1	220.5	210.0	0.751	0.0	21.2	0.07	3.00E-4
0.17881	537.2	221.6	215.0	0.771	0.0	21.2	0.07	3.00E-4
0.17834	538.4	222.7	220.0	0.791	0.0	21.2	0.07	3.00E-4
0.17786	539.7	223.9	225.0	0.811	0.0	21.2	0.07	3.00E-4
0.17737	541.0	225.0	230.0	0.83	0.0	21.2	0.07	3.00E-4
0.17688	542.3	226.1	235.0	0.85	0.0	21.2	0.07	3.00E-4
0.17637	543.6	227.1	240.0	0.87	0.0	21.2	0.07	3.00E-4
0.17587	545.0	228.2	245.0	0.89	0.0	21.2	0.07	3.00E-4
0.17536	546.3	229.3	250.0	0.91	0.0	21.2	0.07	3.00E-4
0.17485	547.7	230.4	255.0	0.93	0.0	21.2	0.07	3.00E-4
0.17434	549.1	231.5	260.0	0.949	0.0	21.2	0.07	3.00E-4
0.17382	550.6	232.5	265.0	0.969	0.0	21.2	0.07	3.00E-4
0.17331	552.0	233.6	270.0	0.989	0.0	21.2	0.07	3.00E-4
0.17279	553.4	234.7	275.0	1.009	0.0	21.2	0.07	3.00E-4
0.17227	554.9	235.7	280.0	1.029	0.0	21.2	0.07	3.00E-4
0.17174	556.4	236.8	285.0	1.049	0.0	21.2	0.07	3.00E-4
0.17121	557.9	237.8	290.0	1.068	0.0	21.2	0.07	3.00E-4
0.17068	559.4	238.8	295.0	1.088	0.0	21.2	0.07	3.00E-4
0.17015	560.9	239.9	300.0	1.108	0.0	21.2	0.07	3.00E-4
0.16962	562.5	240.9	305.0	1.128	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 15; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal	Amb-tem	Amb-pol	Solar rad s-1
					psu	C	kg/kg	
0.07	0.0	90.0	0.07	0.0003	35.19	22.84	0.0	0.000312
0.07	2.0	90.0	0.07	0.0003	35.19	22.85	0.0	0.000312
0.07	4.0	90.0	0.07	0.0003	35.19	22.86	0.0	0.000312
0.07	6.0	90.0	0.07	0.0003	35.19	22.86	0.0	0.000312
0.07	8.0	90.0	0.07	0.0003	35.19	22.86	0.0	0.000312
0.07	10.0	90.0	0.07	0.0003	35.19	22.86	0.0	0.000312
0.07	12.0	90.0	0.07	0.0003	35.19	22.86	0.0	0.000312
0.07	14.0	90.0	0.07	0.0003	35.19	22.86	0.0	0.000312
0.07	16.0	90.0	0.07	0.0003	35.19	22.86	0.0	0.000312
0.07	18.0	90.0	0.07	0.0003	35.19	22.86	0.0	0.000312
0.07	20.0	90.0	0.07	0.0003	35.19	22.86	0.0	0.000312
0.07	22.0	90.0	0.07	0.0003	35.2	22.86	0.0	0.000312
0.07	24.0	90.0	0.07	0.0003	35.19	22.86	0.0	0.000312
0.07	26.0	90.0	0.07	0.0003	35.2	22.86	0.0	0.000312
0.07	28.0	90.0	0.07	0.0003	35.2	22.88	0.0	0.000312
0.07	30.0	90.0	0.07	0.0003	35.2	22.88	0.0	0.000312

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0.07	90.0	0.0003						
	32.0	0.07	90.0	35.2	22.88	0.0	0.000312	
0.07	90.0	0.0003						
	33.0	0.07	90.0	35.2	22.88	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
25.3	28.04							
Froude number:	9.994							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.278	67.3	1.475	-0.255	0.368;	
40	105.4	0.07	10.66	45.29	2.181	-0.608	0.896;	
60	105.4	0.07	15.52	30.48	3.23	-1.087	1.64;	
80	105.2	0.07	22.33	20.51	4.789	-1.708	2.668;	
100	104.8	0.07	31.48	13.8	7.106	-2.477	4.05;	
120	104.0	0.07	42.87	9.289	10.55	-3.354	5.811;	
140	102.6	0.07	56.47	6.251	15.66	-4.201	7.777;	
160	100.6	0.07	72.92	4.207	23.26	-4.96	9.893;	
180	98.01	0.07	93.25	2.831	34.56	-5.631	12.24;	
200	94.74	0.07	118.7	1.905	51.34	-6.228	14.93;	
208	93.22	0.07	130.6	1.626	60.15	-6.447	16.14; merging,	
220	89.84	0.07	154.0	1.282	76.28	-6.85	18.74;	
240	81.57	0.07	215.7	0.863	113.3	-7.549	24.61;	
260	68.82	0.07	314.6	0.58	168.4	-8.26	32.99;	
271	59.15	0.07	390.6	0.467	209.4	-8.653	39.07; axial vel	
0.0198	max dilution reached							
280	49.43	0.07	467.9	0.39	250.2	-8.977	45.08;	
300	20.1	0.07	698.5	0.263	371.8	-9.702	62.77; axial vel	
0.104								
303	14.57	0.07	741.8	0.247	394.6	-9.812	66.06;	
(trap1)surface,								
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of							171.65
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.24664	395.8	173.0	25.0	0.0184	0.0	21.2	0.07	3.00E-4
0.24676	395.4	174.4	30.0	0.0383	0.0	21.2	0.07	3.00E-4
0.24677	395.2	175.8	35.0	0.0581	0.0	21.2	0.07	3.00E-4
0.24674	395.1	177.2	40.0	0.078	0.0	21.2	0.07	3.00E-4
0.24668	395.0	178.5	45.0	0.0978	0.0	21.2	0.07	3.00E-4
0.24661	395.0	179.9	50.0	0.118	0.0	21.2	0.07	3.00E-4
0.24654	394.9	181.3	55.0	0.137	0.0	21.2	0.07	3.00E-4
0.24646	394.9	182.6	60.0	0.157	0.0	21.2	0.07	3.00E-4
0.24637	394.8	184.0	65.0	0.177	0.0	21.2	0.07	3.00E-4
0.24628	394.8	185.3	70.0	0.197	0.0	21.2	0.07	3.00E-4
0.24618	394.8	186.6	75.0	0.217	0.0	21.2	0.07	3.00E-4
0.24608	394.8	187.9	80.0	0.237	0.0	21.2	0.07	3.00E-4
0.24597	394.8	189.2	85.0	0.257	0.0	21.2	0.07	3.00E-4
0.24584	394.8	190.5	90.0	0.276	0.0	21.2	0.07	3.00E-4
0.2457	394.9	191.8	95.0	0.296	0.0	21.2	0.07	3.00E-4
0.24554	395.0	193.1	100.0	0.316	0.0	21.2	0.07	3.00E-4
0.24536	395.1	194.3	105.0	0.336	0.0	21.2	0.07	3.00E-4
0.24517	395.2	195.6	110.0	0.356	0.0	21.2	0.07	3.00E-4
0.24494	395.4	196.8	115.0	0.376	0.0	21.2	0.07	3.00E-4
0.2447	395.6	198.1	120.0	0.395	0.0	21.2	0.07	3.00E-4
0.24443	395.9	199.3	125.0	0.415	0.0	21.2	0.07	3.00E-4
0.24413	396.2	200.5	130.0	0.435	0.0	21.2	0.07	3.00E-4
0.2438	396.6	201.8	135.0	0.455	0.0	21.2	0.07	3.00E-4
0.24344	397.0	203.0	140.0	0.475	0.0	21.2	0.07	3.00E-4
0.24307	397.5	204.2	145.0	0.495	0.0	21.2	0.07	3.00E-4
0.24267	398.0	205.4	150.0	0.514	0.0	21.2	0.07	3.00E-4

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0.24225	398.5	206.6	155.0	0.534	0.0	21.2	0.07	3.00E-4
0.24182	399.0	207.8	160.0	0.554	0.0	21.2	0.07	3.00E-4
0.24135	399.6	208.9	165.0	0.574	0.0	21.2	0.07	3.00E-4
0.24087	400.3	210.1	170.0	0.594	0.0	21.2	0.07	3.00E-4
0.24037	401.0	211.3	175.0	0.614	0.0	21.2	0.07	3.00E-4
0.23986	401.7	212.4	180.0	0.634	0.0	21.2	0.07	3.00E-4
0.23932	402.4	213.6	185.0	0.653	0.0	21.2	0.07	3.00E-4
0.23878	403.2	214.7	190.0	0.673	0.0	21.2	0.07	3.00E-4
0.23822	404.0	215.9	195.0	0.693	0.0	21.2	0.07	3.00E-4
0.23764	404.8	217.0	200.0	0.713	0.0	21.2	0.07	3.00E-4
0.23704	405.6	218.1	205.0	0.733	0.0	21.2	0.07	3.00E-4
0.23644	406.5	219.2	210.0	0.753	0.0	21.2	0.07	3.00E-4
0.23583	407.4	220.4	215.0	0.772	0.0	21.2	0.07	3.00E-4
0.2352	408.3	221.5	220.0	0.792	0.0	21.2	0.07	3.00E-4
0.23457	409.3	222.6	225.0	0.812	0.0	21.2	0.07	3.00E-4
0.23392	410.3	223.7	230.0	0.832	0.0	21.2	0.07	3.00E-4
0.23324	411.3	224.8	235.0	0.852	0.0	21.2	0.07	3.00E-4
0.23259	412.3	225.9	240.0	0.872	0.0	21.2	0.07	3.00E-4
0.23192	413.3	226.9	245.0	0.891	0.0	21.2	0.07	3.00E-4
0.23125	414.4	228.0	250.0	0.911	0.0	21.2	0.07	3.00E-4
0.23057	415.4	229.1	255.0	0.931	0.0	21.2	0.07	3.00E-4
0.22988	416.5	230.2	260.0	0.951	0.0	21.2	0.07	3.00E-4
0.22919	417.6	231.2	265.0	0.971	0.0	21.2	0.07	3.00E-4
0.22852	418.7	232.3	270.0	0.991	0.0	21.2	0.07	3.00E-4
0.22783	419.8	233.3	275.0	1.01	0.0	21.2	0.07	3.00E-4
0.22713	420.9	234.4	280.0	1.03	0.0	21.2	0.07	3.00E-4
0.22644	422.0	235.4	285.0	1.05	0.0	21.2	0.07	3.00E-4
0.22574	423.2	236.5	290.0	1.07	0.0	21.2	0.07	3.00E-4
0.22503	424.4	237.5	295.0	1.09	0.0	21.2	0.07	3.00E-4
0.22433	425.5	238.5	300.0	1.11	0.0	21.2	0.07	3.00E-4
0.22362	426.7	239.6	305.0	1.13	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 16; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg	Amb-dir Disprsn m/s ^{0.67/s²}	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1
	0.0	0.07	90.0	35.12	23.24	0.0	0.000312
0.07	90.0	0.0003	2.0	35.12	23.24	0.0	0.000312
0.07	90.0	0.0003	4.0	35.12	23.24	0.0	0.000312
0.07	90.0	0.0003	6.0	35.12	23.24	0.0	0.000312
0.07	90.0	0.0003	8.0	35.12	23.24	0.0	0.000312
0.07	90.0	0.0003	10.0	35.12	23.23	0.0	0.000312
0.07	90.0	0.0003	12.0	35.12	23.24	0.0	0.000312
0.07	90.0	0.0003	14.0	35.12	23.23	0.0	0.000312
0.07	90.0	0.0003	16.0	35.12	23.23	0.0	0.000312
0.07	90.0	0.0003	18.0	35.12	23.23	0.0	0.000312
0.07	90.0	0.0003	20.0	35.12	23.23	0.0	0.000312
0.07	90.0	0.0003	22.0	35.11	23.2	0.0	0.000312
0.07	90.0	0.0003	24.0				

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	24.0	0.07	90.0	35.13	23.14	0.0	0.000312	
0.07	90.0	0.0003	90.0	35.11	23.1	0.0	0.000312	
0.07	26.0	0.07	90.0	35.11	23.1	0.0	0.000312	
0.07	90.0	0.0003	90.0	35.16	22.98	0.0	0.000312	
0.07	28.0	0.07	90.0	35.16	22.98	0.0	0.000312	
0.07	90.0	0.0003	90.0	35.17	22.95	0.0	0.000312	
0.07	30.0	0.07	90.0	35.17	22.95	0.0	0.000312	
0.07	90.0	0.0003	90.0	35.17	22.94	0.0	0.000312	
0.07	32.0	0.07	90.0	35.17	22.94	0.0	0.000312	
0.07	90.0	0.0003	90.0	35.15	22.9	0.0	0.000312	
0.07	33.0	0.07	90.0	35.15	22.9	0.0	0.000312	
	Ttl-flo	Temp						
	(MGD)	(C)						
	22.7	28.04						
Froude number:	8.975							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.272	67.3	1.475	-0.252	0.365;	
40	105.4	0.07	10.63	45.29	2.181	-0.599	0.885;	
60	105.4	0.07	15.44	30.48	3.23	-1.064	1.615;	
80	105.2	0.07	22.12	20.51	4.789	-1.661	2.617;	
100	104.7	0.07	30.91	13.8	7.106	-2.387	3.952;	
120	103.8	0.07	41.66	9.289	10.55	-3.18	5.597;	
140	102.4	0.07	54.49	6.251	15.66	-3.92	7.391;	
160	100.5	0.07	70.1	4.207	23.27	-4.58	9.333;	
180	98.05	0.07	89.49	2.831	34.56	-5.163	11.51;	
200	94.94	0.07	113.9	1.905	51.35	-5.682	14.03;	
211	92.92	0.07	130.0	1.532	63.84	-5.942	15.63; merging,	
220	90.58	0.07	147.1	1.282	76.29	-6.196	17.46;	
240	83.34	0.07	212.4	0.863	113.3	-6.797	22.98;	
260	72.38	0.07	326.3	0.58	168.4	-7.451	31.49; axial vel	
0.0116								
277	59.17	0.07	489.5	0.414	235.8	-8.053	42.4; max dilution	
reached								
280	56.33	0.07	524.8	0.39	250.3	-8.165	44.84;	
300	32.07	0.07	822.8	0.263	371.9	-8.959	66.33;	
305	24.28	0.07	917.0	0.238	410.6	-9.167	73.41; axial vel	
0.085 (trap1) surface,								
Const Eddy Diffusivity.								
m								
	conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.23687	412.2	176.8	25.0	0.00973	0.0	21.2	0.07	3.00E-4
0.23709	411.6	178.2	30.0	0.0296	0.0	21.2	0.07	3.00E-4
0.23713	411.3	179.7	35.0	0.0494	0.0	21.2	0.07	3.00E-4
0.23712	411.2	181.1	40.0	0.0693	0.0	21.2	0.07	3.00E-4
0.23707	411.1	182.5	45.0	0.0891	0.0	21.2	0.07	3.00E-4
0.23701	411.0	183.8	50.0	0.109	0.0	21.2	0.07	3.00E-4
0.23694	410.9	185.2	55.0	0.129	0.0	21.2	0.07	3.00E-4
0.23687	410.9	186.6	60.0	0.149	0.0	21.2	0.07	3.00E-4
0.23679	410.8	187.9	65.0	0.168	0.0	21.2	0.07	3.00E-4
0.2367	410.8	189.3	70.0	0.188	0.0	21.2	0.07	3.00E-4
0.23661	410.8	190.6	75.0	0.208	0.0	21.2	0.07	3.00E-4
0.23652	410.8	191.9	80.0	0.228	0.0	21.2	0.07	3.00E-4
0.23641	410.8	193.3	85.0	0.248	0.0	21.2	0.07	3.00E-4
0.2363	410.8	194.6	90.0	0.268	0.0	21.2	0.07	3.00E-4
0.23618	410.8	195.9	95.0	0.288	0.0	21.2	0.07	3.00E-4
0.23604	410.9	197.2	100.0	0.307	0.0	21.2	0.07	3.00E-4
0.23588	411.0	198.4	105.0	0.327	0.0	21.2	0.07	3.00E-4
0.23571	411.1	199.7	110.0	0.347	0.0	21.2	0.07	3.00E-4
0.23551	411.3	201.0	115.0	0.367	0.0	21.2	0.07	3.00E-4

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0.23529	411.5	202.2	120.0	0.387	0.0	21.2	0.07	3.00E-4
0.23505	411.7	203.5	125.0	0.407	0.0	21.2	0.07	3.00E-4
0.23479	412.0	204.7	130.0	0.426	0.0	21.2	0.07	3.00E-4
0.2345	412.4	206.0	135.0	0.446	0.0	21.2	0.07	3.00E-4
0.23419	412.7	207.2	140.0	0.466	0.0	21.2	0.07	3.00E-4
0.23384	413.2	208.4	145.0	0.486	0.0	21.2	0.07	3.00E-4
0.23349	413.6	209.6	150.0	0.506	0.0	21.2	0.07	3.00E-4
0.23311	414.2	210.8	155.0	0.526	0.0	21.2	0.07	3.00E-4
0.23271	414.7	212.0	160.0	0.545	0.0	21.2	0.07	3.00E-4
0.23229	415.3	213.2	165.0	0.565	0.0	21.2	0.07	3.00E-4
0.23185	415.9	214.4	170.0	0.585	0.0	21.2	0.07	3.00E-4
0.23139	416.5	215.6	175.0	0.605	0.0	21.2	0.07	3.00E-4
0.23092	417.2	216.8	180.0	0.625	0.0	21.2	0.07	3.00E-4
0.23043	418.0	218.0	185.0	0.645	0.0	21.2	0.07	3.00E-4
0.22992	418.7	219.1	190.0	0.664	0.0	21.2	0.07	3.00E-4
0.22941	419.5	220.3	195.0	0.684	0.0	21.2	0.07	3.00E-4
0.22888	420.3	221.4	200.0	0.704	0.0	21.2	0.07	3.00E-4
0.22833	421.1	222.6	205.0	0.724	0.0	21.2	0.07	3.00E-4
0.22776	422.0	223.7	210.0	0.744	0.0	21.2	0.07	3.00E-4
0.2272	422.9	224.8	215.0	0.764	0.0	21.2	0.07	3.00E-4
0.22662	423.8	226.0	220.0	0.784	0.0	21.2	0.07	3.00E-4
0.22603	424.8	227.1	225.0	0.803	0.0	21.2	0.07	3.00E-4
0.22543	425.7	228.2	230.0	0.823	0.0	21.2	0.07	3.00E-4
0.22481	426.7	229.3	235.0	0.843	0.0	21.2	0.07	3.00E-4
0.22419	427.7	230.4	240.0	0.863	0.0	21.2	0.07	3.00E-4
0.22355	428.8	231.5	245.0	0.883	0.0	21.2	0.07	3.00E-4
0.22292	429.8	232.6	250.0	0.903	0.0	21.2	0.07	3.00E-4
0.22229	430.9	233.7	255.0	0.922	0.0	21.2	0.07	3.00E-4
0.22165	432.0	234.8	260.0	0.942	0.0	21.2	0.07	3.00E-4
0.221	433.1	235.8	265.0	0.962	0.0	21.2	0.07	3.00E-4
0.22035	434.2	236.9	270.0	0.982	0.0	21.2	0.07	3.00E-4
0.21971	435.3	238.0	275.0	1.002	0.0	21.2	0.07	3.00E-4
0.21906	436.4	239.1	280.0	1.022	0.0	21.2	0.07	3.00E-4
0.2184	437.6	240.1	285.0	1.041	0.0	21.2	0.07	3.00E-4
0.21774	438.7	241.2	290.0	1.061	0.0	21.2	0.07	3.00E-4
0.21708	439.9	242.2	295.0	1.081	0.0	21.2	0.07	3.00E-4
0.21641	441.1	243.3	300.0	1.101	0.0	21.2	0.07	3.00E-4
0.21574	442.3	244.3	305.0	1.121	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 17; ambient file C:\Plumes\kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur m/s	Amb-dir deg	Disprsn m0.67/s2	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	0.07	90.0	0.0003	35.12	23.24	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.12	23.24	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.12	23.24	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.12	23.24	0.0	0.000312
0.07	8.0	0.07	90.0	0.0003	35.12	23.24	0.0	0.000312
0.07	10.0	0.07	90.0	0.0003	35.12	23.23	0.0	0.000312
0.07	12.0	0.07	90.0	0.0003	35.12	23.24	0.0	0.000312
0.07	14.0	0.07	90.0	0.0003	35.12	23.23	0.0	0.000312
0.07	16.0	0.07	90.0	0.0003	35.12	23.23	0.0	0.000312

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0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.12	23.23	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.12	23.23	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.11	23.2	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.13	23.14	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.11	23.1	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.16	22.98	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.17	22.95	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.17	22.94	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.15	22.9	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
18.81	28.04							
Froude number:	7.437							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	()	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.259	67.3	1.475	-0.246	0.358	
40	105.4	0.07	10.58	45.29	2.181	-0.581	0.864	
60	105.3	0.07	15.28	30.48	3.23	-1.021	1.567	
80	105.1	0.07	21.66	20.51	4.789	-1.571	2.52	
100	104.6	0.07	29.74	13.8	7.106	-2.216	3.76	
120	103.6	0.07	39.42	9.289	10.55	-2.861	5.183	
140	102.3	0.07	51.04	6.251	15.66	-3.444	6.713	
160	100.5	0.07	65.34	4.207	23.27	-3.959	8.393	
180	98.18	0.07	83.21	2.831	34.56	-4.416	10.31	
200	95.32	0.07	105.7	1.905	51.35	-4.822	12.58	
216	92.58	0.07	128.0	1.388	70.48	-5.115	14.75; merging,	
220	91.67	0.07	134.9	1.282	76.29	-5.197	15.47	
240	85.66	0.07	189.3	0.863	113.3	-5.637	20.21	
260	76.65	0.07	289.1	0.58	168.4	-6.116	27.6	
280	63.51	0.07	462.9	0.39	250.3	-6.639	39.22; axial vel	
0.0164								
286	58.52	0.07	534.0	0.347	281.8	-6.808	43.99; max dilution	
reached								
300	44.16	0.07	735.4	0.263	371.9	-7.229	58.36;	
312	28.23	0.07	960.6	0.207	471.6	-7.611	75.06; axial vel	
0.07 (trap1) surface,								
Const Eddy Diffusivity.								
Farfield dispersion based on wastefield width of							177.20	
m								
conc	dilutn	width	distnce	time				
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)	
0.20616	473.5	177.8	25.0	0.00795	0.0	21.2	0.07 3.00E-4	
0.20637	472.8	179.2	30.0	0.0278	0.0	21.2	0.07 3.00E-4	
0.20642	472.5	180.6	35.0	0.0476	0.0	21.2	0.07 3.00E-4	
0.2064	472.3	182.0	40.0	0.0675	0.0	21.2	0.07 3.00E-4	
0.20637	472.2	183.4	45.0	0.0873	0.0	21.2	0.07 3.00E-4	
0.20632	472.1	184.8	50.0	0.107	0.0	21.2	0.07 3.00E-4	
0.20626	472.0	186.2	55.0	0.127	0.0	21.2	0.07 3.00E-4	
0.20619	472.0	187.6	60.0	0.147	0.0	21.2	0.07 3.00E-4	
0.20612	471.9	188.9	65.0	0.167	0.0	21.2	0.07 3.00E-4	
0.20605	471.9	190.3	70.0	0.187	0.0	21.2	0.07 3.00E-4	
0.20597	471.9	191.6	75.0	0.206	0.0	21.2	0.07 3.00E-4	
0.20589	471.9	193.0	80.0	0.226	0.0	21.2	0.07 3.00E-4	

Kailua_min8.txt							
0.2058	471.9	194.3	85.0	0.246	0.0	21.2	0.07 3.00E-4
0.2057	471.9	195.6	90.0	0.266	0.0	21.2	0.07 3.00E-4
0.2056	471.9	196.9	95.0	0.286	0.0	21.2	0.07 3.00E-4
0.20548	472.0	198.2	100.0	0.306	0.0	21.2	0.07 3.00E-4
0.20534	472.1	199.5	105.0	0.325	0.0	21.2	0.07 3.00E-4
0.20519	472.2	200.8	110.0	0.345	0.0	21.2	0.07 3.00E-4
0.20503	472.4	202.0	115.0	0.365	0.0	21.2	0.07 3.00E-4
0.20484	472.6	203.3	120.0	0.385	0.0	21.2	0.07 3.00E-4
0.20464	472.9	204.6	125.0	0.405	0.0	21.2	0.07 3.00E-4
0.20441	473.2	205.8	130.0	0.425	0.0	21.2	0.07 3.00E-4
0.20417	473.6	207.0	135.0	0.444	0.0	21.2	0.07 3.00E-4
0.2039	474.0	208.3	140.0	0.464	0.0	21.2	0.07 3.00E-4
0.2036	474.5	209.5	145.0	0.484	0.0	21.2	0.07 3.00E-4
0.20329	475.0	210.7	150.0	0.504	0.0	21.2	0.07 3.00E-4
0.20297	475.6	211.9	155.0	0.524	0.0	21.2	0.07 3.00E-4
0.20263	476.2	213.1	160.0	0.544	0.0	21.2	0.07 3.00E-4
0.20227	476.9	214.3	165.0	0.564	0.0	21.2	0.07 3.00E-4
0.20189	477.6	215.5	170.0	0.583	0.0	21.2	0.07 3.00E-4
0.2015	478.3	216.7	175.0	0.603	0.0	21.2	0.07 3.00E-4
0.20109	479.1	217.9	180.0	0.623	0.0	21.2	0.07 3.00E-4
0.20067	479.9	219.1	185.0	0.643	0.0	21.2	0.07 3.00E-4
0.20023	480.8	220.2	190.0	0.663	0.0	21.2	0.07 3.00E-4
0.19979	481.6	221.4	195.0	0.683	0.0	21.2	0.07 3.00E-4
0.19933	482.6	222.5	200.0	0.702	0.0	21.2	0.07 3.00E-4
0.19886	483.5	223.7	205.0	0.722	0.0	21.2	0.07 3.00E-4
0.19837	484.5	224.8	210.0	0.742	0.0	21.2	0.07 3.00E-4
0.19788	485.5	226.0	215.0	0.762	0.0	21.2	0.07 3.00E-4
0.19738	486.6	227.1	220.0	0.782	0.0	21.2	0.07 3.00E-4
0.19687	487.6	228.2	225.0	0.802	0.0	21.2	0.07 3.00E-4
0.19635	488.7	229.3	230.0	0.821	0.0	21.2	0.07 3.00E-4
0.19582	489.9	230.4	235.0	0.841	0.0	21.2	0.07 3.00E-4
0.19528	491.0	231.6	240.0	0.861	0.0	21.2	0.07 3.00E-4
0.19473	492.2	232.7	245.0	0.881	0.0	21.2	0.07 3.00E-4
0.19419	493.4	233.8	250.0	0.901	0.0	21.2	0.07 3.00E-4
0.19364	494.6	234.8	255.0	0.921	0.0	21.2	0.07 3.00E-4
0.19308	495.9	235.9	260.0	0.94	0.0	21.2	0.07 3.00E-4
0.19252	497.1	237.0	265.0	0.96	0.0	21.2	0.07 3.00E-4
0.19196	498.4	238.1	270.0	0.98	0.0	21.2	0.07 3.00E-4
0.19139	499.7	239.2	275.0	1.0	0.0	21.2	0.07 3.00E-4
0.19084	500.9	240.2	280.0	1.02	0.0	21.2	0.07 3.00E-4
0.19027	502.2	241.3	285.0	1.04	0.0	21.2	0.07 3.00E-4
0.1897	503.5	242.4	290.0	1.06	0.0	21.2	0.07 3.00E-4
0.18912	504.9	243.4	295.0	1.079	0.0	21.2	0.07 3.00E-4
0.18855	506.2	244.5	300.0	1.099	0.0	21.2	0.07 3.00E-4
0.18797	507.6	245.5	305.0	1.119	0.0	21.2	0.07 3.00E-4

count: 57

/ Windows UM3.

Case 18; ambient file C:\Plumes\kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
m/s	Far-dir	Disprsn	deg	psu	C	kg/kg	s-1
	m	m/s	m0.67/s2				
0.07	0.0	0.07	90.0	35.15	25.44	0.0	0.000312
0.07	2.0	0.07	0.0003	35.15	25.44	0.0	0.000312
0.07	90.0	0.07	4.0	35.15	25.44	0.0	0.000312
0.07	90.0	0.07	6.0	35.15	25.41	0.0	0.000312
0.07	90.0	0.07	8.0	35.15	25.4	0.0	0.000312
0.07	90.0	0.07	90.0				

Kailua_min8.txt

0.07	10.0	0.07	90.0	35.15	25.4	0.0	0.000312
	90.0	0.0003					
0.07	12.0	0.07	90.0	35.15	25.4	0.0	0.000312
	90.0	0.0003					
0.07	14.0	0.07	90.0	35.15	25.4	0.0	0.000312
	90.0	0.0003					
0.07	16.0	0.07	90.0	35.15	25.39	0.0	0.000312
	90.0	0.0003					
0.07	18.0	0.07	90.0	35.16	25.37	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	35.15	25.38	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	35.15	25.36	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	35.15	25.36	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	35.15	25.35	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	35.15	25.35	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	35.15	25.32	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.11	25.26	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.13	25.17	0.0	0.000312
	90.0	0.0003					
Ttl-flo Temp (MGD) (C)	17.57 28.04						
Froude number:	7.061						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.254	67.3	1.475	-0.244	0.355;
40	105.4	0.07	10.56	45.29	2.182	-0.574	0.856;
60	105.3	0.07	15.22	30.48	3.232	-1.004	1.55;
80	105.1	0.07	21.49	20.51	4.792	-1.539	2.485;
100	104.5	0.07	29.36	13.8	7.111	-2.154	3.69;
120	103.6	0.07	38.77	9.289	10.56	-2.755	5.048;
140	102.3	0.07	50.1	6.251	15.67	-3.295	6.512;
160	100.5	0.07	64.07	4.207	23.28	-3.772	8.129;
180	98.33	0.07	81.51	2.831	34.58	-4.195	9.987;
200	95.58	0.07	103.5	1.905	51.38	-4.571	12.2;
217	92.77	0.07	126.6	1.36	71.94	-4.857	14.46; merging,
220	92.14	0.07	131.4	1.282	76.34	-4.912	14.97;
240	86.45	0.07	179.8	0.863	113.4	-5.307	19.5;
260	77.64	0.07	259.6	0.58	168.5	-5.721	26.26;
280	64.27	0.07	384.0	0.391	250.4	-6.143	36.24;
290	55.21	0.07	467.8	0.32	305.3	-6.357	42.92; axial vel
0.0218 max dilution reached							
300	44.17	0.07	575.4	0.263	372.1	-6.571	51.02;
317	19.83	0.07	830.3	0.188	521.0	-6.944	69.33; axial vel
0.103 (trap1)surface, Const Eddy Diffusivity. Farfield dispersion based on wastefield width of	173.89 m						
conc	dilutn	width	distnce	time			
(ppm)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)	($m^{0.67}/s^2$)
0.18685	522.8	175.0	25.0	0.0149	0.0	21.2	0.07 3.00E-4
0.18697	522.2	176.4	30.0	0.0348	0.0	21.2	0.07 3.00E-4
0.18698	521.9	177.8	35.0	0.0546	0.0	21.2	0.07 3.00E-4
0.18696	521.8	179.2	40.0	0.0744	0.0	21.2	0.07 3.00E-4
0.18692	521.6	180.6	45.0	0.0943	0.0	21.2	0.07 3.00E-4
0.18687	521.5	182.0	50.0	0.114	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.18682	521.5	183.3	55.0	0.134	0.0	21.2	0.07	3.00E-4
0.18676	521.4	184.7	60.0	0.154	0.0	21.2	0.07	3.00E-4
0.18669	521.4	186.0	65.0	0.174	0.0	21.2	0.07	3.00E-4
0.18663	521.3	187.4	70.0	0.193	0.0	21.2	0.07	3.00E-4
0.18655	521.3	188.7	75.0	0.213	0.0	21.2	0.07	3.00E-4
0.18648	521.3	190.0	80.0	0.233	0.0	21.2	0.07	3.00E-4
0.18639	521.3	191.3	85.0	0.253	0.0	21.2	0.07	3.00E-4
0.1863	521.3	192.6	90.0	0.273	0.0	21.2	0.07	3.00E-4
0.1862	521.4	193.9	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.18608	521.5	195.2	100.0	0.313	0.0	21.2	0.07	3.00E-4
0.18595	521.6	196.5	105.0	0.332	0.0	21.2	0.07	3.00E-4
0.18581	521.8	197.7	110.0	0.352	0.0	21.2	0.07	3.00E-4
0.18565	522.0	199.0	115.0	0.372	0.0	21.2	0.07	3.00E-4
0.18547	522.3	200.2	120.0	0.392	0.0	21.2	0.07	3.00E-4
0.18527	522.7	201.5	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.18505	523.1	202.7	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.18481	523.5	204.0	135.0	0.451	0.0	21.2	0.07	3.00E-4
0.18456	524.0	205.2	140.0	0.471	0.0	21.2	0.07	3.00E-4
0.18427	524.6	206.4	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.18398	525.2	207.6	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.18367	525.9	208.8	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.18335	526.6	210.0	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.18301	527.4	211.2	165.0	0.57	0.0	21.2	0.07	3.00E-4
0.18265	528.2	212.3	170.0	0.59	0.0	21.2	0.07	3.00E-4
0.18228	529.0	213.5	175.0	0.61	0.0	21.2	0.07	3.00E-4
0.1819	530.0	214.7	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.1815	530.9	215.8	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.1811	531.9	217.0	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.18068	532.9	218.1	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.18025	534.0	219.3	200.0	0.709	0.0	21.2	0.07	3.00E-4
0.17981	535.1	220.4	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.17935	536.2	221.5	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.1789	537.3	222.7	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.17844	538.5	223.8	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.17796	539.8	224.9	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.17748	541.0	226.0	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.17699	542.3	227.1	235.0	0.848	0.0	21.2	0.07	3.00E-4
0.17648	543.7	228.2	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.17598	545.0	229.3	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.17548	546.4	230.4	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.17497	547.7	231.5	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.17446	549.1	232.5	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.17394	550.6	233.6	265.0	0.967	0.0	21.2	0.07	3.00E-4
0.17342	552.0	234.7	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.17291	553.4	235.7	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.17239	554.9	236.8	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.17187	556.3	237.8	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.17134	557.8	238.9	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.17082	559.3	239.9	295.0	1.086	0.0	21.2	0.07	3.00E-4
0.17029	560.9	241.0	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.16976	562.4	242.0	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 19; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-disprsn	Amb-sal	Amb-tem	Amb-pol	Solar rad	
	m/s	Far-dir	m/s	deg	Disprsn	psu	C	kg/kg	s-1
0.07	0.0	0.07	0.07	90.0	0.0003	35.15	25.44	0.0	0.000312
2.0	2.0	0.07	0.07	90.0	0.0003	35.15	25.44	0.0	0.000312
0.07	90.0	0.07	0.07	90.0	0.0003				

Kailua_min8.txt

0.07	4.0	0.07	90.0	35.15	25.44	0.0	0.000312
	90.0	0.0003					
0.07	6.0	0.07	90.0	35.15	25.41	0.0	0.000312
	90.0	0.0003					
0.07	8.0	0.07	90.0	35.15	25.4	0.0	0.000312
	90.0	0.0003					
0.07	10.0	0.07	90.0	35.15	25.4	0.0	0.000312
	90.0	0.0003					
0.07	12.0	0.07	90.0	35.15	25.4	0.0	0.000312
	90.0	0.0003					
0.07	14.0	0.07	90.0	35.15	25.4	0.0	0.000312
	90.0	0.0003					
0.07	16.0	0.07	90.0	35.15	25.39	0.0	0.000312
	90.0	0.0003					
0.07	18.0	0.07	90.0	35.16	25.37	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	35.15	25.38	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	35.15	25.36	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	35.15	25.36	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	35.15	25.35	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	35.15	25.35	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	35.15	25.32	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.11	25.26	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.13	25.17	0.0	0.000312
	90.0	0.0003					
0.07	Ttl-flo Temp (MGD) (C)						
	14.45 28.04						
Froude number:	5.807						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.236	67.3	1.475	-0.237	0.346;
40	105.4	0.07	10.49	45.29	2.182	-0.552	0.83;
60	105.3	0.07	14.98	30.48	3.232	-0.952	1.491;
80	105.0	0.07	20.83	20.51	4.792	-1.434	2.369;
100	104.4	0.07	27.9	13.8	7.111	-1.947	3.43;
120	103.5	0.07	36.35	9.289	10.56	-2.419	4.58;
140	102.2	0.07	46.65	6.251	15.67	-2.837	5.831;
160	100.6	0.07	59.46	4.207	23.28	-3.207	7.24;
180	98.56	0.07	75.51	2.831	34.58	-3.535	8.893;
200	96.06	0.07	95.71	1.905	51.38	-3.827	10.89;
220	93.02	0.07	121.2	1.282	76.34	-4.086	13.36;
223	92.51	0.07	125.6	1.208	81.01	-4.123	13.78; merging,
240	88.46	0.07	161.7	0.863	113.4	-4.365	17.17;
260	81.29	0.07	230.9	0.58	168.5	-4.667	23.1;
280	70.39	0.07	339.3	0.391	250.4	-4.978	31.94;
300	53.98	0.07	504.0	0.263	372.1	-5.295	45.13; axial vel
0.0224 max dilution reached							
320	30.0	0.07	775.3	0.177	552.9	-5.615	64.78;
325	22.39	0.07	863.2	0.16	610.5	-5.698	71.2; axial vel
0.0883 (trap1)surface, Const Eddy Diffusivity. Farfield dispersion based on wastefield width of	174.73	m					
conc	dilutn	width	distnce	time			
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)

Kailua_min8.txt								
0.15944	612.6	175.7	25.0	0.0128	0.0	21.2	0.07	3.00E-4
0.15955	611.9	177.1	30.0	0.0326	0.0	21.2	0.07	3.00E-4
0.15957	611.6	178.5	35.0	0.0525	0.0	21.2	0.07	3.00E-4
0.15956	611.3	179.9	40.0	0.0723	0.0	21.2	0.07	3.00E-4
0.15953	611.2	181.3	45.0	0.0922	0.0	21.2	0.07	3.00E-4
0.15948	611.1	182.7	50.0	0.112	0.0	21.2	0.07	3.00E-4
0.15944	611.0	184.0	55.0	0.132	0.0	21.2	0.07	3.00E-4
0.15939	610.9	185.4	60.0	0.152	0.0	21.2	0.07	3.00E-4
0.15933	610.9	186.7	65.0	0.172	0.0	21.2	0.07	3.00E-4
0.15927	610.8	188.1	70.0	0.191	0.0	21.2	0.07	3.00E-4
0.15921	610.8	189.4	75.0	0.211	0.0	21.2	0.07	3.00E-4
0.15915	610.8	190.7	80.0	0.231	0.0	21.2	0.07	3.00E-4
0.15908	610.8	192.0	85.0	0.251	0.0	21.2	0.07	3.00E-4
0.159	610.8	193.4	90.0	0.271	0.0	21.2	0.07	3.00E-4
0.15891	610.9	194.6	95.0	0.291	0.0	21.2	0.07	3.00E-4
0.15882	611.0	195.9	100.0	0.31	0.0	21.2	0.07	3.00E-4
0.15871	611.1	197.2	105.0	0.33	0.0	21.2	0.07	3.00E-4
0.15859	611.3	198.5	110.0	0.35	0.0	21.2	0.07	3.00E-4
0.15845	611.6	199.7	115.0	0.37	0.0	21.2	0.07	3.00E-4
0.1583	611.9	201.0	120.0	0.39	0.0	21.2	0.07	3.00E-4
0.15813	612.3	202.2	125.0	0.41	0.0	21.2	0.07	3.00E-4
0.15795	612.8	203.5	130.0	0.429	0.0	21.2	0.07	3.00E-4
0.15775	613.3	204.7	135.0	0.449	0.0	21.2	0.07	3.00E-4
0.15754	613.9	205.9	140.0	0.469	0.0	21.2	0.07	3.00E-4
0.1573	614.5	207.2	145.0	0.489	0.0	21.2	0.07	3.00E-4
0.15705	615.2	208.4	150.0	0.509	0.0	21.2	0.07	3.00E-4
0.15679	616.0	209.6	155.0	0.529	0.0	21.2	0.07	3.00E-4
0.15652	616.8	210.8	160.0	0.549	0.0	21.2	0.07	3.00E-4
0.15623	617.7	211.9	165.0	0.568	0.0	21.2	0.07	3.00E-4
0.15593	618.7	213.1	170.0	0.588	0.0	21.2	0.07	3.00E-4
0.15562	619.7	214.3	175.0	0.608	0.0	21.2	0.07	3.00E-4
0.1553	620.7	215.5	180.0	0.628	0.0	21.2	0.07	3.00E-4
0.15496	621.8	216.6	185.0	0.648	0.0	21.2	0.07	3.00E-4
0.15462	622.9	217.8	190.0	0.668	0.0	21.2	0.07	3.00E-4
0.15427	624.1	218.9	195.0	0.687	0.0	21.2	0.07	3.00E-4
0.1539	625.3	220.1	200.0	0.707	0.0	21.2	0.07	3.00E-4
0.15353	626.6	221.2	205.0	0.727	0.0	21.2	0.07	3.00E-4
0.15314	627.9	222.4	210.0	0.747	0.0	21.2	0.07	3.00E-4
0.15276	629.3	223.5	215.0	0.767	0.0	21.2	0.07	3.00E-4
0.15236	630.7	224.6	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.15196	632.1	225.7	225.0	0.806	0.0	21.2	0.07	3.00E-4
0.15155	633.5	226.8	230.0	0.826	0.0	21.2	0.07	3.00E-4
0.15114	635.0	227.9	235.0	0.846	0.0	21.2	0.07	3.00E-4
0.1507	636.6	229.0	240.0	0.866	0.0	21.2	0.07	3.00E-4
0.15028	638.2	230.1	245.0	0.886	0.0	21.2	0.07	3.00E-4
0.14985	639.7	231.2	250.0	0.906	0.0	21.2	0.07	3.00E-4
0.14942	641.3	232.3	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.14899	643.0	233.4	260.0	0.945	0.0	21.2	0.07	3.00E-4
0.14855	644.6	234.5	265.0	0.965	0.0	21.2	0.07	3.00E-4
0.14811	646.3	235.5	270.0	0.985	0.0	21.2	0.07	3.00E-4
0.14768	647.9	236.6	275.0	1.005	0.0	21.2	0.07	3.00E-4
0.14723	649.6	237.6	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.14679	651.4	238.7	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.14634	653.1	239.8	290.0	1.064	0.0	21.2	0.07	3.00E-4
0.14589	654.9	240.8	295.0	1.084	0.0	21.2	0.07	3.00E-4
0.14544	656.6	241.8	300.0	1.104	0.0	21.2	0.07	3.00E-4
0.14499	658.4	242.9	305.0	1.124	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 20; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
Far-spd	Far-dir	Disprsn				

Kailua_min8.txt								
m/s	m deg	m/s m0.67/s2	deg	psu	c	kg/kg	s-1	
0.07	0.0 90.0	0.07 0.0003	90.0	35.15	25.44	0.0	0.000312	
0.07	2.0 90.0	0.07 0.0003	90.0	35.15	25.44	0.0	0.000312	
0.07	4.0 90.0	0.07 0.0003	90.0	35.15	25.44	0.0	0.000312	
0.07	6.0 90.0	0.07 0.0003	90.0	35.15	25.41	0.0	0.000312	
0.07	8.0 90.0	0.07 0.0003	90.0	35.15	25.4	0.0	0.000312	
0.07	10.0 90.0	0.07 0.0003	90.0	35.15	25.4	0.0	0.000312	
0.07	12.0 90.0	0.07 0.0003	90.0	35.15	25.4	0.0	0.000312	
0.07	14.0 90.0	0.07 0.0003	90.0	35.15	25.4	0.0	0.000312	
0.07	16.0 90.0	0.07 0.0003	90.0	35.15	25.39	0.0	0.000312	
0.07	18.0 90.0	0.07 0.0003	90.0	35.16	25.37	0.0	0.000312	
0.07	20.0 90.0	0.07 0.0003	90.0	35.15	25.38	0.0	0.000312	
0.07	22.0 90.0	0.07 0.0003	90.0	35.15	25.36	0.0	0.000312	
0.07	24.0 90.0	0.07 0.0003	90.0	35.15	25.36	0.0	0.000312	
0.07	26.0 90.0	0.07 0.0003	90.0	35.15	25.35	0.0	0.000312	
0.07	28.0 90.0	0.07 0.0003	90.0	35.15	25.35	0.0	0.000312	
0.07	30.0 90.0	0.07 0.0003	90.0	35.15	25.32	0.0	0.000312	
0.07	32.0 90.0	0.07 0.0003	90.0	35.11	25.26	0.0	0.000312	
0.07	33.0 90.0	0.07 0.0003	90.0	35.13	25.17	0.0	0.000312	
0.07	35.0 90.0	0.07 0.0003						
Tt1-flo		Temp						
(MGD)		(C)						
20.5		28.04						
Froude number: 8.239								
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.266	67.3	1.475	-0.249	0.361;	
40	105.4	0.07	10.61	45.29	2.182	-0.59	0.874;	
60	105.3	0.07	15.36	30.48	3.232	-1.042	1.591;	
80	105.1	0.07	21.91	20.51	4.792	-1.615	2.568;	
100	104.7	0.07	30.38	13.8	7.111	-2.301	3.86;	
120	103.8	0.07	40.63	9.289	10.56	-3.02	5.399;	
140	102.4	0.07	52.91	6.251	15.67	-3.678	7.065;	
160	100.6	0.07	67.91	4.207	23.28	-4.262	8.88;	
180	98.21	0.07	86.55	2.831	34.58	-4.779	10.93;	
200	95.25	0.07	110.0	1.905	51.38	-5.238	13.34;	
213	92.98	0.07	128.4	1.473	66.46	-5.508	15.17;	merging,
220	91.3	0.07	140.8	1.282	76.34	-5.677	16.5;	
240	84.63	0.07	195.6	0.863	113.4	-6.187	21.61;	
260	74.32	0.07	284.4	0.58	168.5	-6.713	29.1;	
280	58.67	0.07	422.5	0.39	250.4	-7.249	40.07;	axial vel
0.0195								
282	56.7	0.07	439.1	0.375	260.5	-7.303	41.42;	max dilution reached

Kailua_min8.txt

300	35.21	0.07	639.6	0.263	372.1	-7.792	56.25;	
311	17.75	0.07	808.4	0.211	462.7	-8.099	68.48; axial vel	
0.119 (trap1) surface,								
Const Eddy Diffusivity.								
m								
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)	(m ^{0.67} /s ²)
(ppm)		(m)	(m)	(hrs)				
0.21045	464.2	174.5	25.0	0.0158	0.0	21.2	0.07	3.00E-4
0.21057	463.7	175.9	30.0	0.0356	0.0	21.2	0.07	3.00E-4
0.21059	463.5	177.3	35.0	0.0555	0.0	21.2	0.07	3.00E-4
0.21056	463.3	178.7	40.0	0.0753	0.0	21.2	0.07	3.00E-4
0.21052	463.2	180.1	45.0	0.0952	0.0	21.2	0.07	3.00E-4
0.21046	463.1	181.5	50.0	0.115	0.0	21.2	0.07	3.00E-4
0.2104	463.1	182.8	55.0	0.135	0.0	21.2	0.07	3.00E-4
0.21033	463.0	184.2	60.0	0.155	0.0	21.2	0.07	3.00E-4
0.21026	463.0	185.5	65.0	0.175	0.0	21.2	0.07	3.00E-4
0.21018	462.9	186.9	70.0	0.194	0.0	21.2	0.07	3.00E-4
0.2101	462.9	188.2	75.0	0.214	0.0	21.2	0.07	3.00E-4
0.21001	462.9	189.5	80.0	0.234	0.0	21.2	0.07	3.00E-4
0.20992	462.9	190.8	85.0	0.254	0.0	21.2	0.07	3.00E-4
0.20981	462.9	192.1	90.0	0.274	0.0	21.2	0.07	3.00E-4
0.20969	463.0	193.4	95.0	0.294	0.0	21.2	0.07	3.00E-4
0.20956	463.1	194.7	100.0	0.313	0.0	21.2	0.07	3.00E-4
0.20942	463.2	195.9	105.0	0.333	0.0	21.2	0.07	3.00E-4
0.20925	463.4	197.2	110.0	0.353	0.0	21.2	0.07	3.00E-4
0.20907	463.6	198.5	115.0	0.373	0.0	21.2	0.07	3.00E-4
0.20886	463.8	199.7	120.0	0.393	0.0	21.2	0.07	3.00E-4
0.20864	464.1	201.0	125.0	0.413	0.0	21.2	0.07	3.00E-4
0.20839	464.5	202.2	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.20812	464.9	203.4	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.20783	465.4	204.6	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.20751	465.9	205.8	145.0	0.492	0.0	21.2	0.07	3.00E-4
0.20718	466.4	207.0	150.0	0.512	0.0	21.2	0.07	3.00E-4
0.20683	467.0	208.2	155.0	0.532	0.0	21.2	0.07	3.00E-4
0.20646	467.7	209.4	160.0	0.552	0.0	21.2	0.07	3.00E-4
0.20608	468.4	210.6	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.20567	469.1	211.8	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.20525	469.9	213.0	175.0	0.611	0.0	21.2	0.07	3.00E-4
0.20482	470.7	214.1	180.0	0.631	0.0	21.2	0.07	3.00E-4
0.20437	471.5	215.3	185.0	0.651	0.0	21.2	0.07	3.00E-4
0.20391	472.4	216.4	190.0	0.671	0.0	21.2	0.07	3.00E-4
0.20344	473.3	217.6	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.20295	474.3	218.7	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.20245	475.2	219.9	205.0	0.73	0.0	21.2	0.07	3.00E-4
0.20195	476.2	221.0	210.0	0.75	0.0	21.2	0.07	3.00E-4
0.20143	477.3	222.1	215.0	0.77	0.0	21.2	0.07	3.00E-4
0.2009	478.4	223.2	220.0	0.79	0.0	21.2	0.07	3.00E-4
0.20036	479.4	224.3	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.19982	480.6	225.4	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.19926	481.7	226.5	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.19869	482.9	227.6	240.0	0.869	0.0	21.2	0.07	3.00E-4
0.19813	484.1	228.7	245.0	0.889	0.0	21.2	0.07	3.00E-4
0.19756	485.3	229.8	250.0	0.909	0.0	21.2	0.07	3.00E-4
0.19698	486.5	230.9	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.1964	487.8	232.0	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.19582	489.1	233.0	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.19525	490.3	234.1	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.19466	491.6	235.1	275.0	1.008	0.0	21.2	0.07	3.00E-4
0.19407	492.9	236.2	280.0	1.028	0.0	21.2	0.07	3.00E-4
0.19348	494.2	237.3	285.0	1.048	0.0	21.2	0.07	3.00E-4
0.19289	495.6	238.3	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.19229	496.9	239.3	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.19169	498.3	240.4	300.0	1.107	0.0	21.2	0.07	3.00E-4

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0.1911 499.6 241.4 305.0 1.127 0.0 21.2 0.07 3.00E-4
 count: 57
 / Windows UM3.
 Case 21; ambient file C:\Plumes\kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
m/s	Far-dir	m/s	Disprsn	psu	c	kg/kg	s-1
	m	deg	m0.67/s2				
0.07	0.0	90.0	0.07	35.19	26.41	0.0	0.000312
0.07	2.0	90.0	0.07	35.19	26.42	0.0	0.000312
0.07	4.0	90.0	0.07	35.18	26.42	0.0	0.000312
0.07	6.0	90.0	0.07	35.18	26.42	0.0	0.000312
0.07	8.0	90.0	0.07	35.18	26.42	0.0	0.000312
0.07	10.0	90.0	0.07	35.19	26.41	0.0	0.000312
0.07	12.0	90.0	0.07	35.18	26.41	0.0	0.000312
0.07	14.0	90.0	0.07	35.19	26.41	0.0	0.000312
0.07	16.0	90.0	0.07	35.12	26.37	0.0	0.000312
0.07	18.0	90.0	0.07	35.16	26.16	0.0	0.000312
0.07	20.0	90.0	0.07	35.15	26.07	0.0	0.000312
0.07	22.0	90.0	0.07	35.21	25.96	0.0	0.000312
0.07	24.0	90.0	0.07	35.19	25.94	0.0	0.000312
0.07	26.0	90.0	0.07	35.21	25.88	0.0	0.000312
0.07	28.0	90.0	0.07	35.21	25.87	0.0	0.000312
0.07	30.0	90.0	0.07	35.21	25.86	0.0	0.000312
0.07	32.0	90.0	0.07	35.21	25.85	0.0	0.000312
0.07	33.0	90.0	0.07	35.21	25.85	0.0	0.000312
0.07	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
16.55	28.04						
Froude number:	6.668						
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	()	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.249	67.3	1.475	-0.242	0.353
40	105.4	0.07	10.54	45.29	2.182	-0.568	0.848
60	105.3	0.07	15.15	30.48	3.232	-0.989	1.533
80	105.0	0.07	21.31	20.51	4.793	-1.508	2.451
100	104.5	0.07	28.95	13.8	7.111	-2.094	3.617
120	103.6	0.07	38.06	9.289	10.56	-2.653	4.91
140	102.3	0.07	49.08	6.251	15.68	-3.153	6.306
160	100.6	0.07	62.72	4.207	23.28	-3.596	7.859
180	98.42	0.07	79.79	2.831	34.59	-3.988	9.654
200	95.75	0.07	101.3	1.905	51.39	-4.337	11.8
219	92.68	0.07	126.8	1.308	74.85	-4.633	14.3; merging,

				Kailua_min8.txt			
220	92.48	0.07	128.4	1.282	76.35	-4.65	14.47;
240	87.14	0.07	174.4	0.863	113.4	-5.009	18.8;
260	78.93	0.07	253.7	0.58	168.6	-5.386	25.32;
280	66.8	0.07	390.1	0.391	250.5	-5.782	35.24; axial vel
0.0138							
283	64.69	0.07	423.3	0.368	265.8	-5.842	37.09; trap1 level,
295	58.18	0.07	585.7	0.304	322.0	-6.031	43.69; max dilution
reached							
299	56.73	0.07	638.4	0.29	336.8	-6.076	45.43; begin overlap,
300	56.45	0.07	650.4	0.288	339.6	-6.085	45.79;
320	52.98	0.07	808.0	0.268	364.4	-6.215	51.2;
340	51.6	0.07	892.6	0.264	370.9	-6.301	54.9;
360	51.05	0.07	932.5	0.262	373.5	-6.382	58.43;
366	51.03	0.07	935.9	0.262	373.7	-6.406	59.49; local maximum
rise or fall;							

Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 176.58 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s) (m0.67/s2)
0.26047	375.2	177.1	20.0	0.00699	0.0	21.2	0.07 3.00E-4
0.26076	374.6	178.5	25.0	0.0268	0.0	21.2	0.07 3.00E-4
0.26082	374.4	179.9	30.0	0.0467	0.0	21.2	0.07 3.00E-4
0.26081	374.2	181.3	35.0	0.0665	0.0	21.2	0.07 3.00E-4
0.26076	374.1	182.7	40.0	0.0864	0.0	21.2	0.07 3.00E-4
0.2607	374.1	184.1	45.0	0.106	0.0	21.2	0.07 3.00E-4
0.26063	374.0	185.5	50.0	0.126	0.0	21.2	0.07 3.00E-4
0.26054	374.0	186.9	55.0	0.146	0.0	21.2	0.07 3.00E-4
0.26046	373.9	188.2	60.0	0.166	0.0	21.2	0.07 3.00E-4
0.26036	373.9	189.6	65.0	0.186	0.0	21.2	0.07 3.00E-4
0.26027	373.9	190.9	70.0	0.205	0.0	21.2	0.07 3.00E-4
0.26016	373.9	192.3	75.0	0.225	0.0	21.2	0.07 3.00E-4
0.26005	373.9	193.6	80.0	0.245	0.0	21.2	0.07 3.00E-4
0.25993	373.9	194.9	85.0	0.265	0.0	21.2	0.07 3.00E-4
0.25979	373.9	196.2	90.0	0.285	0.0	21.2	0.07 3.00E-4
0.25964	374.0	197.5	95.0	0.305	0.0	21.2	0.07 3.00E-4
0.25947	374.0	198.8	100.0	0.324	0.0	21.2	0.07 3.00E-4
0.25929	374.2	200.0	105.0	0.344	0.0	21.2	0.07 3.00E-4
0.25907	374.3	201.3	110.0	0.364	0.0	21.2	0.07 3.00E-4
0.25884	374.5	202.6	115.0	0.384	0.0	21.2	0.07 3.00E-4
0.25858	374.7	203.8	120.0	0.404	0.0	21.2	0.07 3.00E-4
0.2583	375.0	205.1	125.0	0.424	0.0	21.2	0.07 3.00E-4
0.25799	375.2	206.3	130.0	0.443	0.0	21.2	0.07 3.00E-4
0.25765	375.6	207.5	135.0	0.463	0.0	21.2	0.07 3.00E-4
0.25727	376.0	208.8	140.0	0.483	0.0	21.2	0.07 3.00E-4
0.25688	376.4	210.0	145.0	0.503	0.0	21.2	0.07 3.00E-4
0.25647	376.8	211.2	150.0	0.523	0.0	21.2	0.07 3.00E-4
0.25604	377.3	212.4	155.0	0.543	0.0	21.2	0.07 3.00E-4
0.25558	377.8	213.6	160.0	0.563	0.0	21.2	0.07 3.00E-4
0.2551	378.4	214.8	165.0	0.582	0.0	21.2	0.07 3.00E-4
0.2546	379.0	216.0	170.0	0.602	0.0	21.2	0.07 3.00E-4
0.25409	379.6	217.1	175.0	0.622	0.0	21.2	0.07 3.00E-4
0.25355	380.3	218.3	180.0	0.642	0.0	21.2	0.07 3.00E-4
0.253	380.9	219.5	185.0	0.662	0.0	21.2	0.07 3.00E-4
0.25244	381.6	220.6	190.0	0.682	0.0	21.2	0.07 3.00E-4
0.25185	382.4	221.8	195.0	0.701	0.0	21.2	0.07 3.00E-4
0.25125	383.1	222.9	200.0	0.721	0.0	21.2	0.07 3.00E-4
0.25064	383.9	224.1	205.0	0.741	0.0	21.2	0.07 3.00E-4
0.25002	384.7	225.2	210.0	0.761	0.0	21.2	0.07 3.00E-4
0.24938	385.5	226.3	215.0	0.781	0.0	21.2	0.07 3.00E-4
0.24873	386.4	227.5	220.0	0.801	0.0	21.2	0.07 3.00E-4
0.24807	387.3	228.6	225.0	0.82	0.0	21.2	0.07 3.00E-4
0.2474	388.2	229.7	230.0	0.84	0.0	21.2	0.07 3.00E-4
0.24672	389.1	230.8	235.0	0.86	0.0	21.2	0.07 3.00E-4

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0.24602	390.1	231.9	240.0	0.88	0.0	21.2	0.07	3.00E-4
0.24533	391.0	233.0	245.0	0.9	0.0	21.2	0.07	3.00E-4
0.24464	392.0	234.1	250.0	0.92	0.0	21.2	0.07	3.00E-4
0.24393	392.9	235.2	255.0	0.94	0.0	21.2	0.07	3.00E-4
0.24322	393.9	236.2	260.0	0.959	0.0	21.2	0.07	3.00E-4
0.24251	395.0	237.3	265.0	0.979	0.0	21.2	0.07	3.00E-4
0.24179	396.0	238.4	270.0	0.999	0.0	21.2	0.07	3.00E-4
0.24109	397.0	239.5	275.0	1.019	0.0	21.2	0.07	3.00E-4
0.24037	398.0	240.5	280.0	1.039	0.0	21.2	0.07	3.00E-4
0.23964	399.1	241.6	285.0	1.059	0.0	21.2	0.07	3.00E-4
0.23892	400.1	242.6	290.0	1.078	0.0	21.2	0.07	3.00E-4
0.23818	401.2	243.7	295.0	1.098	0.0	21.2	0.07	3.00E-4
0.23745	402.3	244.7	300.0	1.118	0.0	21.2	0.07	3.00E-4
0.23672	403.4	245.8	305.0	1.138	0.0	21.2	0.07	3.00E-4
count: 58								
/ Windows UM3.								
Case 22; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:								
<hr/>								
Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
m/s	Far-dir	Disprsn		psu	C	kg/kg	s-1	
m/s	deg	m/s	deg					
0.07	0.0	0.07	90.0	35.19	26.41	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.19	26.42	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.18	26.42	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.18	26.42	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.18	26.42	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.19	26.41	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.18	26.41	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.19	26.41	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.12	26.37	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.16	26.16	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.15	26.07	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.21	25.96	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.19	25.94	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.21	25.88	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.21	25.87	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.21	25.86	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.21	25.85	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.21	25.85	0.0	0.000312	
	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
21.18	28.04							
Froude number:	8.534							
Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn		

21.18 28.04
Froude number: 8.534

number: 8.034 Depth Amb-cur P-dia Polutnt Dilutn x-posn y-posn

Step	(ft)	(m/s)	(in)	Kailua_min8.txt (ppm)	(\circ)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.268	67.3	1.475	-0.25	0.363;	
40	105.4	0.07	10.62	45.29	2.182	-0.593	0.878;	
60	105.4	0.07	15.39	30.48	3.232	-1.049	1.599;	
80	105.2	0.07	21.99	20.51	4.793	-1.63	2.585;	
100	104.7	0.07	30.59	13.8	7.111	-2.331	3.893;	
120	103.8	0.07	41.04	9.289	10.56	-3.076	5.473;	
140	102.4	0.07	53.55	6.251	15.68	-3.763	7.188;	
160	100.6	0.07	68.82	4.207	23.28	-4.374	9.053;	
180	98.21	0.07	87.82	2.831	34.59	-4.915	11.16;	
200	95.22	0.07	111.7	1.905	51.39	-5.395	13.62;	
212	93.11	0.07	128.8	1.502	65.17	-5.658	15.33; merging,	
220	91.14	0.07	143.3	1.282	76.35	-5.863	16.9;	
240	84.24	0.07	199.7	0.863	113.4	-6.403	22.16;	
260	73.77	0.07	298.0	0.58	168.6	-6.962	29.89;	
278	60.53	0.07	464.9	0.406	240.7	-7.488	40.13; axial vel	
0.0183 trap1 level, reached	280	58.95	0.07	495.2	0.391	250.4	-7.547	41.52; max dilution
288	54.65	0.07	617.1	0.349	280.4	-7.715	45.71; begin overlap,	
300	51.79	0.07	739.2	0.328	298.5	-7.842	49.17;	
320	48.65	0.07	880.5	0.312	313.3	-8.032	54.58;	
340	46.55	0.07	979.3	0.303	323.1	-8.241	60.78;	
360	45.64	0.07	1027.2	0.298	328.0	-8.474	67.82;	
364	45.63	0.07	1029.6	0.298	328.3	-8.521	69.25; local maximum	
rise or fall, Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of	178.96	m					

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	time (ppm)	(ly/hr)	(m/s) (m ^{0.67} /s ²)
0.29661	329.4	180.0	25.0	0.0148	0.0	21.2	0.07 3.00E-4
0.29679	329.1	181.5	30.0	0.0347	0.0	21.2	0.07 3.00E-4
0.29682	328.9	182.9	35.0	0.0545	0.0	21.2	0.07 3.00E-4
0.29679	328.8	184.3	40.0	0.0743	0.0	21.2	0.07 3.00E-4
0.29673	328.7	185.7	45.0	0.0942	0.0	21.2	0.07 3.00E-4
0.29665	328.6	187.1	50.0	0.114	0.0	21.2	0.07 3.00E-4
0.29656	328.6	188.5	55.0	0.134	0.0	21.2	0.07 3.00E-4
0.29647	328.5	189.9	60.0	0.154	0.0	21.2	0.07 3.00E-4
0.29636	328.5	191.2	65.0	0.174	0.0	21.2	0.07 3.00E-4
0.29626	328.5	192.6	70.0	0.193	0.0	21.2	0.07 3.00E-4
0.29614	328.5	193.9	75.0	0.213	0.0	21.2	0.07 3.00E-4
0.29602	328.5	195.2	80.0	0.233	0.0	21.2	0.07 3.00E-4
0.29589	328.5	196.6	85.0	0.253	0.0	21.2	0.07 3.00E-4
0.29575	328.5	197.9	90.0	0.273	0.0	21.2	0.07 3.00E-4
0.29559	328.5	199.2	95.0	0.293	0.0	21.2	0.07 3.00E-4
0.29541	328.6	200.5	100.0	0.312	0.0	21.2	0.07 3.00E-4
0.29522	328.6	201.8	105.0	0.332	0.0	21.2	0.07 3.00E-4
0.295	328.8	203.1	110.0	0.352	0.0	21.2	0.07 3.00E-4
0.29475	328.9	204.3	115.0	0.372	0.0	21.2	0.07 3.00E-4
0.29448	329.0	205.6	120.0	0.392	0.0	21.2	0.07 3.00E-4
0.29418	329.2	206.8	125.0	0.412	0.0	21.2	0.07 3.00E-4
0.29385	329.5	208.1	130.0	0.431	0.0	21.2	0.07 3.00E-4
0.2935	329.7	209.3	135.0	0.451	0.0	21.2	0.07 3.00E-4
0.29311	330.0	210.6	140.0	0.471	0.0	21.2	0.07 3.00E-4
0.29267	330.4	211.8	145.0	0.491	0.0	21.2	0.07 3.00E-4
0.29223	330.8	213.0	150.0	0.511	0.0	21.2	0.07 3.00E-4
0.29176	331.1	214.2	155.0	0.531	0.0	21.2	0.07 3.00E-4
0.29127	331.6	215.4	160.0	0.551	0.0	21.2	0.07 3.00E-4
0.29075	332.0	216.6	165.0	0.57	0.0	21.2	0.07 3.00E-4
0.29021	332.5	217.8	170.0	0.59	0.0	21.2	0.07 3.00E-4
0.28964	333.0	219.0	175.0	0.61	0.0	21.2	0.07 3.00E-4
0.28905	333.6	220.2	180.0	0.63	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt								
0.28845	334.1	221.4	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.28782	334.7	222.5	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.28718	335.3	223.7	195.0	0.689	0.0	21.2	0.07	3.00E-4
0.28652	336.0	224.9	200.0	0.709	0.0	21.2	0.07	3.00E-4
0.28584	336.7	226.0	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.28515	337.3	227.2	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.28445	338.0	228.3	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.28373	338.8	229.4	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.283	339.5	230.6	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.28225	340.3	231.7	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.2815	341.1	232.8	235.0	0.848	0.0	21.2	0.07	3.00E-4
0.28073	341.9	233.9	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.27993	342.7	235.0	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.27915	343.5	236.1	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.27837	344.4	237.2	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.27757	345.2	238.3	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.27677	346.1	239.4	265.0	0.967	0.0	21.2	0.07	3.00E-4
0.27596	347.0	240.5	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.27515	347.8	241.5	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.27436	348.7	242.6	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.27355	349.6	243.7	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.27273	350.5	244.7	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.27191	351.4	245.8	295.0	1.086	0.0	21.2	0.07	3.00E-4
0.27109	352.4	246.9	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.27026	353.3	247.9	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 23; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur		Amb-dir deg	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
		Far-dir deg	Disprsn m0.67/s2					
0.07	0.0	90.0	0.0003	90.0	35.19	26.41	0.0	0.000312
0.07	2.0	90.0	0.0003	90.0	35.19	26.42	0.0	0.000312
0.07	4.0	90.0	0.0003	90.0	35.18	26.42	0.0	0.000312
0.07	6.0	90.0	0.0003	90.0	35.18	26.42	0.0	0.000312
0.07	8.0	90.0	0.0003	90.0	35.18	26.42	0.0	0.000312
0.07	10.0	90.0	0.0003	90.0	35.19	26.41	0.0	0.000312
0.07	12.0	90.0	0.0003	90.0	35.18	26.41	0.0	0.000312
0.07	14.0	90.0	0.0003	90.0	35.19	26.41	0.0	0.000312
0.07	16.0	90.0	0.0003	90.0	35.12	26.37	0.0	0.000312
0.07	18.0	90.0	0.0003	90.0	35.16	26.16	0.0	0.000312
0.07	20.0	90.0	0.0003	90.0	35.15	26.07	0.0	0.000312
0.07	22.0	90.0	0.0003	90.0	35.21	25.96	0.0	0.000312
0.07	24.0	90.0	0.0003	90.0	35.19	25.94	0.0	0.000312
0.07	26.0	90.0	0.0003	90.0	35.21	25.88	0.0	0.000312
0.07	28.0	90.0	0.0003	90.0	35.21	25.87	0.0	0.000312

Kailua_min8.txt

0.07	30.0	0.07	90.0	35.21	25.86	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.21	25.85	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.21	25.85	0.0	0.000312
	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
17.37	28.04						
Froude number:	6.999						
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.253	67.3	1.475	-0.244	0.355;
40	105.4	0.07	10.56	45.29	2.182	-0.573	0.855;
60	105.3	0.07	15.21	30.48	3.232	-1.002	1.547;
80	105.1	0.07	21.46	20.51	4.793	-1.533	2.479;
100	104.5	0.07	29.29	13.8	7.111	-2.143	3.677;
120	103.6	0.07	38.65	9.289	10.56	-2.737	5.024;
140	102.3	0.07	49.95	6.251	15.68	-3.269	6.477;
160	100.6	0.07	63.88	4.207	23.28	-3.741	8.084;
180	98.36	0.07	81.31	2.831	34.59	-4.159	9.934;
200	95.64	0.07	103.2	1.905	51.39	-4.53	12.14;
218	92.66	0.07	127.8	1.334	73.38	-4.831	14.56;
220	92.23	0.07	131.1	1.282	76.35	-4.868	14.91;
240	86.61	0.07	179.1	0.863	113.4	-5.257	19.42;
260	77.99	0.07	261.9	0.58	168.6	-5.665	26.15;
280	65.31	0.07	406.9	0.391	250.5	-6.092	36.38; axial vel
0.0147							
282	63.88	0.07	431.2	0.375	260.6	-6.135	37.64; trap1 level,
292	58.09	0.07	570.9	0.318	307.5	-6.313	43.36; max dilution
reached							
297	56.22	0.07	638.1	0.3	325.4	-6.374	45.54; begin overlap,
300	55.42	0.07	671.9	0.294	332.6	-6.401	46.55;
320	52.27	0.07	819.6	0.278	352.2	-6.531	51.55;
340	50.86	0.07	903.5	0.273	358.5	-6.628	55.43;
360	50.29	0.07	943.3	0.271	361.2	-6.724	59.28;
366	50.27	0.07	946.4	0.27	361.4	-6.752	60.43; local maximum
rise or fall,							
Const Eddy Diffusivity.							
m							
conc	dilutn	width	distnce	time			
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.26925	363.0	177.3	20.0	0.00582	0.0	21.2	0.07 3.00E-4
0.26958	362.4	178.7	25.0	0.0257	0.0	21.2	0.07 3.00E-4
0.26965	362.1	180.1	30.0	0.0455	0.0	21.2	0.07 3.00E-4
0.26964	362.0	181.5	35.0	0.0653	0.0	21.2	0.07 3.00E-4
0.26959	361.9	182.9	40.0	0.0852	0.0	21.2	0.07 3.00E-4
0.26953	361.8	184.3	45.0	0.105	0.0	21.2	0.07 3.00E-4
0.26945	361.8	185.7	50.0	0.125	0.0	21.2	0.07 3.00E-4
0.26937	361.7	187.1	55.0	0.145	0.0	21.2	0.07 3.00E-4
0.26928	361.7	188.4	60.0	0.165	0.0	21.2	0.07 3.00E-4
0.26918	361.7	189.8	65.0	0.184	0.0	21.2	0.07 3.00E-4
0.26908	361.6	191.1	70.0	0.204	0.0	21.2	0.07 3.00E-4
0.26898	361.6	192.5	75.0	0.224	0.0	21.2	0.07 3.00E-4
0.26886	361.6	193.8	80.0	0.244	0.0	21.2	0.07 3.00E-4
0.26873	361.6	195.1	85.0	0.264	0.0	21.2	0.07 3.00E-4
0.2686	361.7	196.4	90.0	0.284	0.0	21.2	0.07 3.00E-4
0.26844	361.7	197.7	95.0	0.303	0.0	21.2	0.07 3.00E-4
0.26827	361.8	199.0	100.0	0.323	0.0	21.2	0.07 3.00E-4
0.26808	361.9	200.3	105.0	0.343	0.0	21.2	0.07 3.00E-4
0.26786	362.0	201.5	110.0	0.363	0.0	21.2	0.07 3.00E-4
0.26762	362.2	202.8	115.0	0.383	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.26735	362.4	204.0	120.0	0.403	0.0	21.2	0.07	3.00E-4
0.26706	362.7	205.3	125.0	0.422	0.0	21.2	0.07	3.00E-4
0.26674	362.9	206.5	130.0	0.442	0.0	21.2	0.07	3.00E-4
0.2664	363.3	207.8	135.0	0.462	0.0	21.2	0.07	3.00E-4
0.266	363.6	209.0	140.0	0.482	0.0	21.2	0.07	3.00E-4
0.26561	364.0	210.2	145.0	0.502	0.0	21.2	0.07	3.00E-4
0.26518	364.5	211.4	150.0	0.522	0.0	21.2	0.07	3.00E-4
0.26474	364.9	212.6	155.0	0.542	0.0	21.2	0.07	3.00E-4
0.26427	365.4	213.8	160.0	0.561	0.0	21.2	0.07	3.00E-4
0.26378	366.0	215.0	165.0	0.581	0.0	21.2	0.07	3.00E-4
0.26326	366.5	216.2	170.0	0.601	0.0	21.2	0.07	3.00E-4
0.26273	367.1	217.4	175.0	0.621	0.0	21.2	0.07	3.00E-4
0.26218	367.7	218.5	180.0	0.641	0.0	21.2	0.07	3.00E-4
0.26161	368.4	219.7	185.0	0.661	0.0	21.2	0.07	3.00E-4
0.26103	369.1	220.9	190.0	0.68	0.0	21.2	0.07	3.00E-4
0.26043	369.8	222.0	195.0	0.7	0.0	21.2	0.07	3.00E-4
0.25981	370.5	223.2	200.0	0.72	0.0	21.2	0.07	3.00E-4
0.25918	371.3	224.3	205.0	0.74	0.0	21.2	0.07	3.00E-4
0.25854	372.0	225.4	210.0	0.76	0.0	21.2	0.07	3.00E-4
0.25788	372.8	226.6	215.0	0.78	0.0	21.2	0.07	3.00E-4
0.25722	373.7	227.7	220.0	0.799	0.0	21.2	0.07	3.00E-4
0.25654	374.5	228.8	225.0	0.819	0.0	21.2	0.07	3.00E-4
0.25585	375.4	229.9	230.0	0.839	0.0	21.2	0.07	3.00E-4
0.25514	376.3	231.0	235.0	0.859	0.0	21.2	0.07	3.00E-4
0.25442	377.2	232.1	240.0	0.879	0.0	21.2	0.07	3.00E-4
0.25371	378.1	233.2	245.0	0.899	0.0	21.2	0.07	3.00E-4
0.25299	379.0	234.3	250.0	0.919	0.0	21.2	0.07	3.00E-4
0.25226	380.0	235.4	255.0	0.938	0.0	21.2	0.07	3.00E-4
0.25153	380.9	236.5	260.0	0.958	0.0	21.2	0.07	3.00E-4
0.25079	381.9	237.6	265.0	0.978	0.0	21.2	0.07	3.00E-4
0.25005	382.9	238.6	270.0	0.998	0.0	21.2	0.07	3.00E-4
0.24932	383.9	239.7	275.0	1.018	0.0	21.2	0.07	3.00E-4
0.24858	384.9	240.8	280.0	1.038	0.0	21.2	0.07	3.00E-4
0.24783	385.9	241.8	285.0	1.057	0.0	21.2	0.07	3.00E-4
0.24708	386.9	242.9	290.0	1.077	0.0	21.2	0.07	3.00E-4
0.24633	387.9	243.9	295.0	1.097	0.0	21.2	0.07	3.00E-4
0.24557	389.0	245.0	300.0	1.117	0.0	21.2	0.07	3.00E-4
0.24481	390.0	246.0	305.0	1.137	0.0	21.2	0.07	3.00E-4

count: 58

/ Windows UM3.

Case 24; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur m/s	Amb-dir deg	Disprsn m0.67/s2	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	0.07	90.0	0.0003	35.32	23.74	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.31	23.74	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.31	23.74	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.32	23.74	0.0	0.000312
0.07	8.0	0.07	90.0	0.0003	35.33	23.75	0.0	0.000312
0.07	10.0	0.07	90.0	0.0003	35.32	23.75	0.0	0.000312
0.07	12.0	0.07	90.0	0.0003	35.31	23.77	0.0	0.000312
0.07	14.0	0.07	90.0	0.0003	35.3	23.77	0.0	0.000312
0.07	16.0	0.07	90.0	0.0003	35.33	23.74	0.0	0.000312

Kailua_min8.txt

0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.31	23.74	0.0	0.000312	
0.07	90.0	0.0003	90.0	35.31	23.73	0.0	0.000312	
0.07	20.0	0.07	90.0	35.31	23.73	0.0	0.000312	
0.07	90.0	0.0003	90.0	35.31	23.72	0.0	0.000312	
0.07	22.0	0.07	90.0	35.31	23.72	0.0	0.000312	
0.07	90.0	0.0003	90.0	35.31	23.69	0.0	0.000312	
0.07	24.0	0.07	90.0	35.31	23.69	0.0	0.000312	
0.07	90.0	0.0003	90.0	35.31	23.65	0.0	0.000312	
0.07	26.0	0.07	90.0	35.31	23.59	0.0	0.000312	
0.07	90.0	0.0003	90.0	35.24	23.27	0.0	0.000312	
0.07	28.0	0.07	90.0	35.29	23.19	0.0	0.000312	
0.07	90.0	0.0003	90.0	35.32	23.18	0.0	0.000312	
0.07	30.0	0.07	90.0	35.33	23.18	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
21.67	28.04							
Froude number:	8.56							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.269	67.3	1.475	-0.251	0.363;	
40	105.4	0.07	10.62	45.29	2.181	-0.595	0.88;	
60	105.4	0.07	15.4	30.48	3.23	-1.054	1.604;	
80	105.2	0.07	22.02	20.51	4.789	-1.639	2.594;	
100	104.7	0.07	30.64	13.8	7.106	-2.346	3.908;	
120	103.8	0.07	41.11	9.289	10.55	-3.102	5.498;	
140	102.4	0.07	53.64	6.251	15.66	-3.8	7.223;	
160	100.5	0.07	68.97	4.207	23.27	-4.421	9.095;	
180	98.09	0.07	88.15	2.831	34.56	-4.971	11.21;	
200	95.08	0.07	112.8	1.905	51.35	-5.462	13.68;	
211	93.17	0.07	129.6	1.532	63.84	-5.71	15.26; merging,	
220	91.0	0.07	148.6	1.282	76.29	-5.955	17.09;	
240	84.15	0.07	214.2	0.863	113.4	-6.556	22.84;	
260	73.45	0.07	315.9	0.58	168.4	-7.189	31.4;	
279	58.4	0.07	472.2	0.398	245.4	-7.807	43.31; axial vel	
0.0201	max dilution reached							
280	57.44	0.07	482.5	0.39	250.3	-7.84	44.08;	
300	33.61	0.07	747.9	0.263	371.9	-8.516	63.17;	
308	20.65	0.07	870.5	0.224	435.7	-8.802	73.65; axial vel	
0.103	(trap1) surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.92	
m	conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.2232	437.4	175.6	25.0	0.00949	0.0	21.2	0.07	3.00E-4
0.22341	436.8	177.0	30.0	0.0293	0.0	21.2	0.07	3.00E-4
0.22345	436.5	178.4	35.0	0.0492	0.0	21.2	0.07	3.00E-4
0.22344	436.4	179.8	40.0	0.069	0.0	21.2	0.07	3.00E-4
0.22339	436.2	181.2	45.0	0.0889	0.0	21.2	0.07	3.00E-4
0.22334	436.2	182.6	50.0	0.109	0.0	21.2	0.07	3.00E-4
0.22327	436.1	184.0	55.0	0.129	0.0	21.2	0.07	3.00E-4
0.2232	436.0	185.4	60.0	0.148	0.0	21.2	0.07	3.00E-4
0.22313	436.0	186.7	65.0	0.168	0.0	21.2	0.07	3.00E-4
0.22305	436.0	188.1	70.0	0.188	0.0	21.2	0.07	3.00E-4
0.22296	435.9	189.4	75.0	0.208	0.0	21.2	0.07	3.00E-4
0.22287	435.9	190.7	80.0	0.228	0.0	21.2	0.07	3.00E-4
0.22277	435.9	192.0	85.0	0.248	0.0	21.2	0.07	3.00E-4

Kailua_min8.txt							
0.22267	435.9	193.3	90.0	0.267	0.0	21.2	0.07 3.00E-4
0.22255	436.0	194.6	95.0	0.287	0.0	21.2	0.07 3.00E-4
0.22242	436.1	195.9	100.0	0.307	0.0	21.2	0.07 3.00E-4
0.22227	436.2	197.2	105.0	0.327	0.0	21.2	0.07 3.00E-4
0.22221	436.3	198.5	110.0	0.347	0.0	21.2	0.07 3.00E-4
0.22192	436.5	199.7	115.0	0.367	0.0	21.2	0.07 3.00E-4
0.22171	436.7	201.0	120.0	0.386	0.0	21.2	0.07 3.00E-4
0.22148	437.0	202.2	125.0	0.406	0.0	21.2	0.07 3.00E-4
0.22123	437.3	203.5	130.0	0.426	0.0	21.2	0.07 3.00E-4
0.22096	437.6	204.7	135.0	0.446	0.0	21.2	0.07 3.00E-4
0.22066	438.0	205.9	140.0	0.466	0.0	21.2	0.07 3.00E-4
0.22033	438.5	207.1	145.0	0.486	0.0	21.2	0.07 3.00E-4
0.21999	439.0	208.4	150.0	0.506	0.0	21.2	0.07 3.00E-4
0.21963	439.6	209.6	155.0	0.525	0.0	21.2	0.07 3.00E-4
0.21925	440.1	210.8	160.0	0.545	0.0	21.2	0.07 3.00E-4
0.21885	440.8	211.9	165.0	0.565	0.0	21.2	0.07 3.00E-4
0.21844	441.4	213.1	170.0	0.585	0.0	21.2	0.07 3.00E-4
0.218	442.1	214.3	175.0	0.605	0.0	21.2	0.07 3.00E-4
0.21755	442.9	215.5	180.0	0.625	0.0	21.2	0.07 3.00E-4
0.21709	443.6	216.6	185.0	0.644	0.0	21.2	0.07 3.00E-4
0.2166	444.5	217.8	190.0	0.664	0.0	21.2	0.07 3.00E-4
0.21612	445.3	219.0	195.0	0.684	0.0	21.2	0.07 3.00E-4
0.21561	446.2	220.1	200.0	0.704	0.0	21.2	0.07 3.00E-4
0.21509	447.1	221.2	205.0	0.724	0.0	21.2	0.07 3.00E-4
0.21455	448.0	222.4	210.0	0.744	0.0	21.2	0.07 3.00E-4
0.21402	448.9	223.5	215.0	0.763	0.0	21.2	0.07 3.00E-4
0.21347	449.9	224.6	220.0	0.783	0.0	21.2	0.07 3.00E-4
0.21291	450.9	225.7	225.0	0.803	0.0	21.2	0.07 3.00E-4
0.21234	452.0	226.9	230.0	0.823	0.0	21.2	0.07 3.00E-4
0.21176	453.0	228.0	235.0	0.843	0.0	21.2	0.07 3.00E-4
0.21115	454.2	229.1	240.0	0.863	0.0	21.2	0.07 3.00E-4
0.21056	455.3	230.2	245.0	0.883	0.0	21.2	0.07 3.00E-4
0.20997	456.4	231.2	250.0	0.902	0.0	21.2	0.07 3.00E-4
0.20936	457.5	232.3	255.0	0.922	0.0	21.2	0.07 3.00E-4
0.20876	458.7	233.4	260.0	0.942	0.0	21.2	0.07 3.00E-4
0.20814	459.8	234.5	265.0	0.962	0.0	21.2	0.07 3.00E-4
0.20752	461.0	235.6	270.0	0.982	0.0	21.2	0.07 3.00E-4
0.20692	462.2	236.6	275.0	1.002	0.0	21.2	0.07 3.00E-4
0.2063	463.4	237.7	280.0	1.021	0.0	21.2	0.07 3.00E-4
0.20568	464.6	238.7	285.0	1.041	0.0	21.2	0.07 3.00E-4
0.20506	465.9	239.8	290.0	1.061	0.0	21.2	0.07 3.00E-4
0.20443	467.1	240.8	295.0	1.081	0.0	21.2	0.07 3.00E-4
0.2038	468.4	241.9	300.0	1.101	0.0	21.2	0.07 3.00E-4
0.20317	469.7	242.9	305.0	1.121	0.0	21.2	0.07 3.00E-4

count: 57

/ Windows UM3.

Case 25; ambient file C:\Plumes\kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	solar	rad
	Far-dir	Disprsn						
m/s	m	m/s	deg	psu	c	kg/kg	s-1	
0.07	0.0	0.07	90.0	35.32	23.74	0.0	0.000312	
	2.0	0.07	0.0003	35.31	23.74	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.31	23.74	0.0	0.000312	
	4.0	0.07	90.0	35.31	23.74	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.32	23.74	0.0	0.000312	
	6.0	0.07	90.0	35.33	23.75	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.32	23.75	0.0	0.000312	
	8.0	0.07	90.0	35.33	23.75	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.32	23.75	0.0	0.000312	
	10.0	0.07	90.0	35.32	23.75	0.0	0.000312	

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0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.31	23.77	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.3	23.77	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.33	23.74	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.31	23.74	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.31	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.31	23.72	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.31	23.69	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.31	23.65	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.24	23.59	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.29	23.27	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.32	23.19	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.33	23.18	0.0	0.000312	
0.07	90.0	0.0003						
Tt1-flo	Temp							
(MGD)	(C)							
24.07	28.04							
Froude number:	9.508							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.275	67.3	1.475	-0.253	0.367;	
40	105.4	0.07	10.65	45.29	2.181	-0.604	0.891;	
60	105.4	0.07	15.48	30.48	3.23	-1.076	1.629;	
80	105.2	0.07	22.24	20.51	4.789	-1.687	2.645;	
100	104.8	0.07	31.22	13.8	7.106	-2.436	4.005;	
120	103.9	0.07	42.32	9.289	10.55	-3.275	5.715;	
140	102.5	0.07	55.58	6.251	15.66	-4.072	7.6;	
160	100.6	0.07	71.7	4.207	23.27	-4.783	9.636;	
180	98.04	0.07	91.79	2.831	34.56	-5.415	11.9;	
200	94.9	0.07	117.6	1.905	51.35	-5.977	14.54;	
208	93.46	0.07	130.1	1.626	60.16	-6.186	15.73;	
220	90.34	0.07	156.8	1.282	76.29	-6.574	18.34;	
240	82.68	0.07	226.7	0.863	113.4	-7.289	24.6;	
260	70.81	0.07	337.2	0.58	168.4	-8.032	33.76;	
274	59.11	0.07	454.0	0.44	222.2	-8.567	42.67;	
0.0199	max dilution reached						merging,	
280	52.96	0.07	515.7	0.39	250.3	-8.802	47.35;	
300	26.26	0.07	795.5	0.263	371.9	-9.602	67.83; axial vel	
0.0759								
304	19.14	0.07	852.1	0.243	402.5	-9.77	73.2;	
(trap1)surface,								
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.45	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(l/y/hr) (m/s)(m ^{0.67} /s ²)	
0.24162	404.1	175.2	25.0	0.00988	0.0	21.2	0.07 3.00E-4	
0.24184	403.5	176.6	30.0	0.0297	0.0	21.2	0.07 3.00E-4	
0.24188	403.3	178.0	35.0	0.0496	0.0	21.2	0.07 3.00E-4	
0.24187	403.1	179.4	40.0	0.0694	0.0	21.2	0.07 3.00E-4	
0.24182	403.0	180.8	45.0	0.0892	0.0	21.2	0.07 3.00E-4	
0.24176	402.9	182.2	50.0	0.109	0.0	21.2	0.07 3.00E-4	

Kailua_min8.txt

0.24169	402.9	183.5	55.0	0.129	0.0	21.2	0.07	3.00E-4
0.24161	402.8	184.9	60.0	0.149	0.0	21.2	0.07	3.00E-4
0.24153	402.8	186.3	65.0	0.169	0.0	21.2	0.07	3.00E-4
0.24144	402.8	187.6	70.0	0.188	0.0	21.2	0.07	3.00E-4
0.24135	402.7	188.9	75.0	0.208	0.0	21.2	0.07	3.00E-4
0.24125	402.7	190.3	80.0	0.228	0.0	21.2	0.07	3.00E-4
0.24115	402.7	191.6	85.0	0.248	0.0	21.2	0.07	3.00E-4
0.24103	402.8	192.9	90.0	0.268	0.0	21.2	0.07	3.00E-4
0.2409	402.8	194.2	95.0	0.288	0.0	21.2	0.07	3.00E-4
0.24076	402.9	195.5	100.0	0.307	0.0	21.2	0.07	3.00E-4
0.2406	403.0	196.7	105.0	0.327	0.0	21.2	0.07	3.00E-4
0.24042	403.1	198.0	110.0	0.347	0.0	21.2	0.07	3.00E-4
0.24021	403.3	199.3	115.0	0.367	0.0	21.2	0.07	3.00E-4
0.23999	403.5	200.5	120.0	0.387	0.0	21.2	0.07	3.00E-4
0.23974	403.7	201.8	125.0	0.407	0.0	21.2	0.07	3.00E-4
0.23947	404.0	203.0	130.0	0.427	0.0	21.2	0.07	3.00E-4
0.23917	404.3	204.2	135.0	0.446	0.0	21.2	0.07	3.00E-4
0.23885	404.7	205.5	140.0	0.466	0.0	21.2	0.07	3.00E-4
0.23848	405.2	206.7	145.0	0.486	0.0	21.2	0.07	3.00E-4
0.23812	405.6	207.9	150.0	0.506	0.0	21.2	0.07	3.00E-4
0.23772	406.1	209.1	155.0	0.526	0.0	21.2	0.07	3.00E-4
0.23731	406.7	210.3	160.0	0.546	0.0	21.2	0.07	3.00E-4
0.23688	407.2	211.5	165.0	0.565	0.0	21.2	0.07	3.00E-4
0.23643	407.9	212.6	170.0	0.585	0.0	21.2	0.07	3.00E-4
0.23595	408.5	213.8	175.0	0.605	0.0	21.2	0.07	3.00E-4
0.23547	409.2	215.0	180.0	0.625	0.0	21.2	0.07	3.00E-4
0.23496	409.9	216.2	185.0	0.645	0.0	21.2	0.07	3.00E-4
0.23444	410.7	217.3	190.0	0.665	0.0	21.2	0.07	3.00E-4
0.23391	411.4	218.5	195.0	0.684	0.0	21.2	0.07	3.00E-4
0.23335	412.2	219.6	200.0	0.704	0.0	21.2	0.07	3.00E-4
0.23279	413.1	220.7	205.0	0.724	0.0	21.2	0.07	3.00E-4
0.23221	414.0	221.9	210.0	0.744	0.0	21.2	0.07	3.00E-4
0.23163	414.8	223.0	215.0	0.764	0.0	21.2	0.07	3.00E-4
0.23103	415.7	224.1	220.0	0.784	0.0	21.2	0.07	3.00E-4
0.23042	416.7	225.2	225.0	0.804	0.0	21.2	0.07	3.00E-4
0.2298	417.6	226.4	230.0	0.823	0.0	21.2	0.07	3.00E-4
0.22917	418.6	227.5	235.0	0.843	0.0	21.2	0.07	3.00E-4
0.22851	419.7	228.6	240.0	0.863	0.0	21.2	0.07	3.00E-4
0.22787	420.7	229.6	245.0	0.883	0.0	21.2	0.07	3.00E-4
0.22723	421.7	230.7	250.0	0.903	0.0	21.2	0.07	3.00E-4
0.22657	422.8	231.8	255.0	0.923	0.0	21.2	0.07	3.00E-4
0.22591	423.9	232.9	260.0	0.942	0.0	21.2	0.07	3.00E-4
0.22525	424.9	234.0	265.0	0.962	0.0	21.2	0.07	3.00E-4
0.22458	426.0	235.0	270.0	0.982	0.0	21.2	0.07	3.00E-4
0.22392	427.1	236.1	275.0	1.002	0.0	21.2	0.07	3.00E-4
0.22325	428.3	237.2	280.0	1.022	0.0	21.2	0.07	3.00E-4
0.22258	429.4	238.2	285.0	1.042	0.0	21.2	0.07	3.00E-4
0.2219	430.5	239.3	290.0	1.061	0.0	21.2	0.07	3.00E-4
0.22122	431.7	240.3	295.0	1.081	0.0	21.2	0.07	3.00E-4
0.22054	432.9	241.4	300.0	1.101	0.0	21.2	0.07	3.00E-4
0.21985	434.0	242.4	305.0	1.121	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 26; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir	Disprsn	deg	psu	C	kg/kg	s-1	
m/s	deg	m/s	deg					
0.07	0.0	0.07	90.0	35.32	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.31	23.74	0.0	0.000312	
	90.0	0.0003						

Kailua_min8.txt

0.07	4.0	0.07	90.0	35.31	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.32	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.33	23.75	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.32	23.75	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.31	23.77	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.3	23.77	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.33	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.31	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.31	23.73	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.31	23.72	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.31	23.69	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.31	23.65	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.24	23.59	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.29	23.27	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.32	23.19	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.33	23.18	0.0	0.000312	
	90.0	0.0003						
0.07	Ttl-flo (MGD)	Temp (C)						
	16.92	28.04						
Froude number:	6.683							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.25	67.3	1.475	-0.243	0.353;	
40	105.4	0.07	10.54	45.29	2.181	-0.57	0.851;	
60	105.3	0.07	15.16	30.48	3.23	-0.994	1.538;	
80	105.0	0.07	21.34	20.51	4.789	-1.517	2.46;	
100	104.5	0.07	28.99	13.8	7.106	-2.11	3.632;	
120	103.5	0.07	38.11	9.289	10.55	-2.678	4.933;	
140	102.2	0.07	49.14	6.251	15.66	-3.185	6.334;	
160	100.5	0.07	62.83	4.207	23.27	-3.634	7.89;	
180	98.29	0.07	80.06	2.831	34.56	-4.033	9.689;	
200	95.61	0.07	102.2	1.905	51.35	-4.389	11.84;	
217	92.92	0.07	126.4	1.36	71.89	-4.662	14.07; merging,	
220	92.33	0.07	131.7	1.282	76.29	-4.715	14.58;	
240	87.09	0.07	186.7	0.863	113.4	-5.109	19.25;	
260	78.79	0.07	271.2	0.58	168.4	-5.54	26.55;	
280	66.41	0.07	409.6	0.39	250.3	-5.98	37.35; axial vel	
0.0143	292	56.29	0.07	529.9	0.308	317.4	-6.253	46.37; max dilution
reached	300	47.87	0.07	620.9	0.263	371.9	-6.442	53.89;
	317	25.85	0.07	910.6	0.187	520.7	-6.846	74.53; axial vel
0.0768	(trap1)surface,	Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of					175.93
m	conc	dilutn	width	distnce	time			

					Kailua_min8.txt			
(ppm)	(m)	(m)	(hrs)	(ppm)	(1y/hr)	(m/s)	(m0.67/s2)	
0.18673	522.8	176.6	25.0	0.00868	0.0	21.2	0.07	3.00E-4
0.18692	522.0	178.0	30.0	0.0285	0.0	21.2	0.07	3.00E-4
0.18696	521.7	179.4	35.0	0.0484	0.0	21.2	0.07	3.00E-4
0.18694	521.5	180.8	40.0	0.0682	0.0	21.2	0.07	3.00E-4
0.18691	521.4	182.2	45.0	0.088	0.0	21.2	0.07	3.00E-4
0.18686	521.3	183.6	50.0	0.108	0.0	21.2	0.07	3.00E-4
0.18681	521.2	185.0	55.0	0.128	0.0	21.2	0.07	3.00E-4
0.18675	521.1	186.3	60.0	0.148	0.0	21.2	0.07	3.00E-4
0.18669	521.1	187.7	65.0	0.167	0.0	21.2	0.07	3.00E-4
0.18662	521.0	189.0	70.0	0.187	0.0	21.2	0.07	3.00E-4
0.18655	521.0	190.4	75.0	0.207	0.0	21.2	0.07	3.00E-4
0.18647	521.0	191.7	80.0	0.227	0.0	21.2	0.07	3.00E-4
0.18639	521.0	193.0	85.0	0.247	0.0	21.2	0.07	3.00E-4
0.1863	521.0	194.3	90.0	0.267	0.0	21.2	0.07	3.00E-4
0.18621	521.0	195.6	95.0	0.286	0.0	21.2	0.07	3.00E-4
0.1861	521.1	196.9	100.0	0.306	0.0	21.2	0.07	3.00E-4
0.18597	521.2	198.2	105.0	0.326	0.0	21.2	0.07	3.00E-4
0.18584	521.4	199.5	110.0	0.346	0.0	21.2	0.07	3.00E-4
0.18568	521.6	200.7	115.0	0.366	0.0	21.2	0.07	3.00E-4
0.18551	521.9	202.0	120.0	0.386	0.0	21.2	0.07	3.00E-4
0.18533	522.2	203.3	125.0	0.406	0.0	21.2	0.07	3.00E-4
0.18512	522.5	204.5	130.0	0.425	0.0	21.2	0.07	3.00E-4
0.18489	523.0	205.7	135.0	0.445	0.0	21.2	0.07	3.00E-4
0.18465	523.4	207.0	140.0	0.465	0.0	21.2	0.07	3.00E-4
0.18437	524.0	208.2	145.0	0.485	0.0	21.2	0.07	3.00E-4
0.18409	524.6	209.4	150.0	0.505	0.0	21.2	0.07	3.00E-4
0.18379	525.2	210.6	155.0	0.525	0.0	21.2	0.07	3.00E-4
0.18348	525.9	211.8	160.0	0.544	0.0	21.2	0.07	3.00E-4
0.18315	526.6	213.0	165.0	0.564	0.0	21.2	0.07	3.00E-4
0.18281	527.4	214.2	170.0	0.584	0.0	21.2	0.07	3.00E-4
0.18245	528.2	215.4	175.0	0.604	0.0	21.2	0.07	3.00E-4
0.18207	529.1	216.5	180.0	0.624	0.0	21.2	0.07	3.00E-4
0.18169	530.0	217.7	185.0	0.644	0.0	21.2	0.07	3.00E-4
0.18128	531.0	218.9	190.0	0.663	0.0	21.2	0.07	3.00E-4
0.18088	532.0	220.0	195.0	0.683	0.0	21.2	0.07	3.00E-4
0.18046	533.0	221.2	200.0	0.703	0.0	21.2	0.07	3.00E-4
0.18003	534.1	222.3	205.0	0.723	0.0	21.2	0.07	3.00E-4
0.17958	535.2	223.5	210.0	0.743	0.0	21.2	0.07	3.00E-4
0.17914	536.3	224.6	215.0	0.763	0.0	21.2	0.07	3.00E-4
0.17868	537.5	225.7	220.0	0.782	0.0	21.2	0.07	3.00E-4
0.17822	538.7	226.8	225.0	0.802	0.0	21.2	0.07	3.00E-4
0.17774	539.9	228.0	230.0	0.822	0.0	21.2	0.07	3.00E-4
0.17726	541.2	229.1	235.0	0.842	0.0	21.2	0.07	3.00E-4
0.17677	542.4	230.2	240.0	0.862	0.0	21.2	0.07	3.00E-4
0.17626	543.8	231.3	245.0	0.882	0.0	21.2	0.07	3.00E-4
0.17577	545.1	232.4	250.0	0.902	0.0	21.2	0.07	3.00E-4
0.17527	546.5	233.4	255.0	0.921	0.0	21.2	0.07	3.00E-4
0.17476	547.8	234.5	260.0	0.941	0.0	21.2	0.07	3.00E-4
0.17425	549.2	235.6	265.0	0.961	0.0	21.2	0.07	3.00E-4
0.17374	550.6	236.7	270.0	0.981	0.0	21.2	0.07	3.00E-4
0.17323	552.0	237.7	275.0	1.001	0.0	21.2	0.07	3.00E-4
0.17272	553.5	238.8	280.0	1.021	0.0	21.2	0.07	3.00E-4
0.1722	554.9	239.9	285.0	1.04	0.0	21.2	0.07	3.00E-4
0.17168	556.4	240.9	290.0	1.06	0.0	21.2	0.07	3.00E-4
0.17116	557.9	242.0	295.0	1.08	0.0	21.2	0.07	3.00E-4
0.17063	559.4	243.0	300.0	1.1	0.0	21.2	0.07	3.00E-4
0.17011	560.9	244.1	305.0	1.12	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 27; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

----- Depth Amb-cur Amb-dir Amb-sal Amb-tem Amb-pol Solar rad

Kailua_min8.txt								
Far-spd m/s	Far-dir deg	Dispnsn m/s ^{0.67/s²}	deg	psu	c	kg/kg	s-1	
0.07	0.0	0.07	90.0	35.32	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.31	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.31	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.32	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.33	23.75	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.32	23.75	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.31	23.77	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.3	23.77	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.33	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.31	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.31	23.73	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.31	23.72	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.31	23.69	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.31	23.65	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.24	23.59	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.29	23.27	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.32	23.19	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.33	23.18	0.0	0.000312	
	90.0	0.0003						
Ttl-flo (MGD)	Temp (C)							
21.06	28.04							
Froude number:	8.319							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.267	67.3	1.475	-0.25	0.362;	
40	105.4	0.07	10.61	45.29	2.181	-0.592	0.877;	
60	105.3	0.07	15.38	30.48	3.23	-1.047	1.597;	
80	105.1	0.07	21.95	20.51	4.789	-1.626	2.579;	
100	104.7	0.07	30.47	13.8	7.106	-2.321	3.88;	
120	103.7	0.07	40.77	9.289	10.55	-3.054	5.436;	
140	102.4	0.07	53.11	6.251	15.66	-3.727	7.119;	
160	100.5	0.07	68.24	4.207	23.27	-4.325	8.951;	
180	98.1	0.07	87.18	2.831	34.56	-4.856	11.02;	
200	95.13	0.07	111.5	1.905	51.35	-5.328	13.45;	
212	93.07	0.07	129.8	1.502	65.11	-5.588	15.16;	
220	91.18	0.07	146.5	1.282	76.29	-5.796	16.76;	
240	84.53	0.07	210.9	0.863	113.4	-6.369	22.38;	
260	74.13	0.07	310.4	0.58	168.4	-6.975	30.79;	
280	58.59	0.07	473.6	0.39	250.3	-7.598	43.23; axial vel	
0.0199	281	57.63	0.07	483.9	0.383	255.3	-7.63	44.0; max dilution

Kailua_min8.txt

reached

300	35.43	0.07	732.9	0.263	371.9	-8.244	61.99;
309	21.27	0.07	874.5	0.22	444.4	-8.551	73.67; axial vel

0.0989 (trap1) surface,
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 175.02
m

conc (ppm)	dilutn	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m0.67/s2)
0.21882	446.1	175.7	25.0	0.0095	0.0	21.2	0.07 3.00E-4
0.21903	445.5	177.1	30.0	0.0293	0.0	21.2	0.07 3.00E-4
0.21907	445.2	178.5	35.0	0.0492	0.0	21.2	0.07 3.00E-4
0.21905	445.1	180.0	40.0	0.069	0.0	21.2	0.07 3.00E-4
0.21901	445.0	181.3	45.0	0.0889	0.0	21.2	0.07 3.00E-4
0.21896	444.9	182.7	50.0	0.109	0.0	21.2	0.07 3.00E-4
0.21889	444.8	184.1	55.0	0.129	0.0	21.2	0.07 3.00E-4
0.21882	444.8	185.5	60.0	0.148	0.0	21.2	0.07 3.00E-4
0.21875	444.7	186.8	65.0	0.168	0.0	21.2	0.07 3.00E-4
0.21867	444.7	188.2	70.0	0.188	0.0	21.2	0.07 3.00E-4
0.21859	444.7	189.5	75.0	0.208	0.0	21.2	0.07 3.00E-4
0.2185	444.6	190.8	80.0	0.228	0.0	21.2	0.07 3.00E-4
0.2184	444.6	192.1	85.0	0.248	0.0	21.2	0.07 3.00E-4
0.2183	444.7	193.4	90.0	0.267	0.0	21.2	0.07 3.00E-4
0.21818	444.7	194.7	95.0	0.287	0.0	21.2	0.07 3.00E-4
0.21805	444.8	196.0	100.0	0.307	0.0	21.2	0.07 3.00E-4
0.21791	444.9	197.3	105.0	0.327	0.0	21.2	0.07 3.00E-4
0.21775	445.0	198.6	110.0	0.347	0.0	21.2	0.07 3.00E-4
0.21756	445.2	199.8	115.0	0.367	0.0	21.2	0.07 3.00E-4
0.21736	445.4	201.1	120.0	0.386	0.0	21.2	0.07 3.00E-4
0.21714	445.7	202.3	125.0	0.406	0.0	21.2	0.07 3.00E-4
0.21689	446.0	203.6	130.0	0.426	0.0	21.2	0.07 3.00E-4
0.21662	446.4	204.8	135.0	0.446	0.0	21.2	0.07 3.00E-4
0.21633	446.8	206.0	140.0	0.466	0.0	21.2	0.07 3.00E-4
0.21601	447.3	207.3	145.0	0.486	0.0	21.2	0.07 3.00E-4
0.21568	447.8	208.5	150.0	0.506	0.0	21.2	0.07 3.00E-4
0.21532	448.4	209.7	155.0	0.525	0.0	21.2	0.07 3.00E-4
0.21495	448.9	210.9	160.0	0.545	0.0	21.2	0.07 3.00E-4
0.21456	449.6	212.1	165.0	0.565	0.0	21.2	0.07 3.00E-4
0.21415	450.3	213.2	170.0	0.585	0.0	21.2	0.07 3.00E-4
0.21373	451.0	214.4	175.0	0.605	0.0	21.2	0.07 3.00E-4
0.21329	451.7	215.6	180.0	0.625	0.0	21.2	0.07 3.00E-4
0.21283	452.5	216.8	185.0	0.644	0.0	21.2	0.07 3.00E-4
0.21236	453.3	217.9	190.0	0.664	0.0	21.2	0.07 3.00E-4
0.21188	454.2	219.1	195.0	0.684	0.0	21.2	0.07 3.00E-4
0.21139	455.1	220.2	200.0	0.704	0.0	21.2	0.07 3.00E-4
0.21087	456.0	221.4	205.0	0.724	0.0	21.2	0.07 3.00E-4
0.21035	456.9	222.5	210.0	0.744	0.0	21.2	0.07 3.00E-4
0.20983	457.9	223.6	215.0	0.763	0.0	21.2	0.07 3.00E-4
0.20929	458.9	224.7	220.0	0.783	0.0	21.2	0.07 3.00E-4
0.20874	459.9	225.9	225.0	0.803	0.0	21.2	0.07 3.00E-4
0.20818	461.0	227.0	230.0	0.823	0.0	21.2	0.07 3.00E-4
0.20761	462.1	228.1	235.0	0.843	0.0	21.2	0.07 3.00E-4
0.20702	463.2	229.2	240.0	0.863	0.0	21.2	0.07 3.00E-4
0.20644	464.3	230.3	245.0	0.883	0.0	21.2	0.07 3.00E-4
0.20585	465.5	231.4	250.0	0.902	0.0	21.2	0.07 3.00E-4
0.20526	466.6	232.4	255.0	0.922	0.0	21.2	0.07 3.00E-4
0.20467	467.8	233.5	260.0	0.942	0.0	21.2	0.07 3.00E-4
0.20407	469.0	234.6	265.0	0.962	0.0	21.2	0.07 3.00E-4
0.20346	470.2	235.7	270.0	0.982	0.0	21.2	0.07 3.00E-4
0.20287	471.4	236.7	275.0	1.002	0.0	21.2	0.07 3.00E-4
0.20226	472.7	237.8	280.0	1.021	0.0	21.2	0.07 3.00E-4
0.20166	473.9	238.9	285.0	1.041	0.0	21.2	0.07 3.00E-4
0.20104	475.2	239.9	290.0	1.061	0.0	21.2	0.07 3.00E-4
0.20043	476.4	241.0	295.0	1.081	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.19981	477.7	242.0	300.0	1.101	0.0	21.2	0.07	3.00E-4
0.19919	479.0	243.0	305.0	1.121	0.0	21.2	0.07	3.00E-4
count: 57								
/ Windows UM3.								
Case 28; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:								
Far-spd m/s	Depth m	Amb-cur m/s	Amb-dir deg	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1	
Far-dir deg	Dispnsn m0.67/s2							
0.07	0.0	0.07	90.0	35.16	24.2	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.16	24.2	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.15	24.21	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.15	24.2	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.16	24.16	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.17	24.09	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.19	24.06	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.19	24.05	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.19	24.05	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.19	24.05	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.19	24.04	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.19	24.01	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.18	23.93	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.22	23.77	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.24	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.24	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.24	23.77	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.23	23.79	0.0	0.000312	
	90.0	0.0003						
Ttl-flo (MGD)	Temp (C)							
18.4	28.04							

Froude number: 7.306

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.257	67.3	1.475	-0.246	0.357
40	105.4	0.07	10.57	45.29	2.181	-0.579	0.861
60	105.3	0.07	15.26	30.48	3.231	-1.015	1.562
80	105.1	0.07	21.6	20.51	4.79	-1.561	2.509
100	104.6	0.07	29.61	13.8	7.107	-2.196	3.737
120	103.6	0.07	39.19	9.289	10.55	-2.826	5.138
140	102.3	0.07	50.71	6.251	15.67	-3.394	6.644
160	100.5	0.07	64.88	4.207	23.27	-3.896	8.302
180	98.21	0.07	82.57	2.831	34.57	-4.341	10.2
200	95.38	0.07	104.8	1.905	51.35	-4.736	12.44

				Kailua_min8.txt			
217	92.48	0.07	128.2	1.36	71.9	-5.038	14.74; merging,
220	91.81	0.07	133.2	1.282	76.3	-5.097	15.27;
240	85.85	0.07	183.3	0.863	113.4	-5.517	19.89;
260	76.96	0.07	279.5	0.58	168.4	-5.959	26.83; axial vel
0.00899							
280	64.74	0.07	470.4	0.39	250.3	-6.454	38.09;
287	59.46	0.07	566.4	0.34	287.5	-6.648	43.73; max dilution
reached							
300	47.83	0.07	791.9	0.263	371.9	-7.047	57.8;
311	35.64	0.07	1037.9	0.211	462.5	-7.429	74.71; trap1 level,
(trap1) surface,							
Const Eddy Diffusivity.							
Farfield dispersion based on wastefield width of							179.17
m							

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.21029	464.3	179.8	25.0	0.0084	0.0	21.2	0.07 3.00E-4
0.2105	463.6	181.2	30.0	0.0282	0.0	21.2	0.07 3.00E-4
0.21054	463.3	182.6	35.0	0.0481	0.0	21.2	0.07 3.00E-4
0.21053	463.1	184.1	40.0	0.0679	0.0	21.2	0.07 3.00E-4
0.21049	463.0	185.5	45.0	0.0878	0.0	21.2	0.07 3.00E-4
0.21044	462.9	186.9	50.0	0.108	0.0	21.2	0.07 3.00E-4
0.21038	462.9	188.2	55.0	0.127	0.0	21.2	0.07 3.00E-4
0.21031	462.8	189.6	60.0	0.147	0.0	21.2	0.07 3.00E-4
0.21024	462.8	191.0	65.0	0.167	0.0	21.2	0.07 3.00E-4
0.21017	462.7	192.3	70.0	0.187	0.0	21.2	0.07 3.00E-4
0.21009	462.7	193.7	75.0	0.207	0.0	21.2	0.07 3.00E-4
0.21	462.7	195.0	80.0	0.227	0.0	21.2	0.07 3.00E-4
0.20991	462.7	196.4	85.0	0.246	0.0	21.2	0.07 3.00E-4
0.20982	462.7	197.7	90.0	0.266	0.0	21.2	0.07 3.00E-4
0.20971	462.7	199.0	95.0	0.286	0.0	21.2	0.07 3.00E-4
0.20959	462.8	200.3	100.0	0.306	0.0	21.2	0.07 3.00E-4
0.20945	462.9	201.6	105.0	0.326	0.0	21.2	0.07 3.00E-4
0.2093	463.0	202.9	110.0	0.346	0.0	21.2	0.07 3.00E-4
0.20914	463.2	204.1	115.0	0.366	0.0	21.2	0.07 3.00E-4
0.20895	463.4	205.4	120.0	0.385	0.0	21.2	0.07 3.00E-4
0.20874	463.7	206.7	125.0	0.405	0.0	21.2	0.07 3.00E-4
0.20852	464.0	207.9	130.0	0.425	0.0	21.2	0.07 3.00E-4
0.20827	464.3	209.2	135.0	0.445	0.0	21.2	0.07 3.00E-4
0.208	464.7	210.4	140.0	0.465	0.0	21.2	0.07 3.00E-4
0.2077	465.2	211.6	145.0	0.485	0.0	21.2	0.07 3.00E-4
0.2074	465.7	212.9	150.0	0.504	0.0	21.2	0.07 3.00E-4
0.20707	466.3	214.1	155.0	0.524	0.0	21.2	0.07 3.00E-4
0.20673	466.9	215.3	160.0	0.544	0.0	21.2	0.07 3.00E-4
0.20637	467.5	216.5	165.0	0.564	0.0	21.2	0.07 3.00E-4
0.20599	468.1	217.7	170.0	0.584	0.0	21.2	0.07 3.00E-4
0.20559	468.9	218.9	175.0	0.604	0.0	21.2	0.07 3.00E-4
0.20518	469.6	220.1	180.0	0.623	0.0	21.2	0.07 3.00E-4
0.20475	470.4	221.2	185.0	0.643	0.0	21.2	0.07 3.00E-4
0.20431	471.2	222.4	190.0	0.663	0.0	21.2	0.07 3.00E-4
0.20387	472.1	223.6	195.0	0.683	0.0	21.2	0.07 3.00E-4
0.2034	473.0	224.7	200.0	0.703	0.0	21.2	0.07 3.00E-4
0.20293	473.9	225.9	205.0	0.723	0.0	21.2	0.07 3.00E-4
0.20244	474.8	227.0	210.0	0.743	0.0	21.2	0.07 3.00E-4
0.20194	475.8	228.2	215.0	0.762	0.0	21.2	0.07 3.00E-4
0.20144	476.8	229.3	220.0	0.782	0.0	21.2	0.07 3.00E-4
0.20092	477.9	230.4	225.0	0.802	0.0	21.2	0.07 3.00E-4
0.2004	478.9	231.6	230.0	0.822	0.0	21.2	0.07 3.00E-4
0.19987	480.0	232.7	235.0	0.842	0.0	21.2	0.07 3.00E-4
0.19932	481.1	233.8	240.0	0.862	0.0	21.2	0.07 3.00E-4
0.19876	482.3	234.9	245.0	0.881	0.0	21.2	0.07 3.00E-4
0.19821	483.5	236.0	250.0	0.901	0.0	21.2	0.07 3.00E-4
0.19766	484.6	237.1	255.0	0.921	0.0	21.2	0.07 3.00E-4
0.1971	485.8	238.2	260.0	0.941	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.19653	487.0	239.3	265.0	0.961	0.0	21.2	0.07	3.00E-4
0.19596	488.3	240.4	270.0	0.981	0.0	21.2	0.07	3.00E-4
0.19538	489.5	241.4	275.0	1.0	0.0	21.2	0.07	3.00E-4
0.19482	490.7	242.5	280.0	1.02	0.0	21.2	0.07	3.00E-4
0.19425	492.0	243.6	285.0	1.04	0.0	21.2	0.07	3.00E-4
0.19367	493.3	244.6	290.0	1.06	0.0	21.2	0.07	3.00E-4
0.19309	494.6	245.7	295.0	1.08	0.0	21.2	0.07	3.00E-4
0.19251	495.9	246.8	300.0	1.1	0.0	21.2	0.07	3.00E-4
0.19192	497.2	247.8	305.0	1.12	0.0	21.2	0.07	3.00E-4

count: 57
/ Windows UM3.

Case 29; ambient file C:\Plumes\kailua_min8.001.db; diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal	Amb-tem	Amb-pol	Solar rad
					psu	c	kg/kg	s-1
0.07	0.0	0.07	90.0	0.0003	35.16	24.2	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.16	24.2	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.15	24.21	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.15	24.2	0.0	0.000312
0.07	8.0	0.07	90.0	0.0003	35.16	24.16	0.0	0.000312
0.07	10.0	0.07	90.0	0.0003	35.17	24.09	0.0	0.000312
0.07	12.0	0.07	90.0	0.0003	35.19	24.06	0.0	0.000312
0.07	14.0	0.07	90.0	0.0003	35.19	24.05	0.0	0.000312
0.07	16.0	0.07	90.0	0.0003	35.19	24.05	0.0	0.000312
0.07	18.0	0.07	90.0	0.0003	35.19	24.05	0.0	0.000312
0.07	20.0	0.07	90.0	0.0003	35.19	24.04	0.0	0.000312
0.07	22.0	0.07	90.0	0.0003	35.19	24.01	0.0	0.000312
0.07	24.0	0.07	90.0	0.0003	35.18	23.93	0.0	0.000312
0.07	26.0	0.07	90.0	0.0003	35.22	23.77	0.0	0.000312
0.07	28.0	0.07	90.0	0.0003	35.24	23.74	0.0	0.000312
0.07	30.0	0.07	90.0	0.0003	35.24	23.74	0.0	0.000312
0.07	32.0	0.07	90.0	0.0003	35.24	23.77	0.0	0.000312
0.07	33.0	0.07	90.0	0.0003	35.23	23.79	0.0	0.000312
0.07	90.0	0.0003						
	Ttl-flo (MGD)	Temp (C)						
	17.14	28.04						

Froude number: 6.805

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.251	67.3	1.475	-0.243	0.354
40	105.4	0.07	10.55	45.29	2.181	-0.571	0.852
60	105.3	0.07	15.18	30.48	3.231	-0.998	1.542

Kailua_min8.txt							
80	105.1	0.07	21.39	20.51	4.79	-1.524	2.469;
100	104.5	0.07	29.11	13.8	7.107	-2.125	3.652;
120	103.6	0.07	38.32	9.289	10.55	-2.703	4.971;
140	102.2	0.07	49.43	6.251	15.67	-3.221	6.392;
160	100.5	0.07	63.15	4.207	23.27	-3.679	7.965;
180	98.28	0.07	80.31	2.831	34.57	-4.084	9.778;
200	95.55	0.07	101.9	1.905	51.35	-4.445	11.94;
219	92.36	0.07	127.6	1.308	74.8	-4.752	14.46; merging,
220	92.15	0.07	129.2	1.282	76.3	-4.77	14.63;
240	86.61	0.07	176.1	0.863	113.4	-5.142	18.99;
260	78.3	0.07	264.7	0.58	168.4	-5.536	25.58; axial vel
0.00829							
280	66.95	0.07	444.8	0.391	250.3	-5.971	36.15;
291	59.08	0.07	596.4	0.314	311.2	-6.244	45.01; max dilution
reached							
300	51.55	0.07	754.0	0.263	371.9	-6.493	54.73;
314	37.21	0.07	1066.2	0.199	490.8	-6.936	76.41;
(trap1) surface,							
Const Eddy Diffusivity.							
m							
conc	dilutn	width	distnce	time			
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m0.67/s2)
0.19811	492.9	180.4	25.0	0.0064	0.0	21.2	0.07 3.00E-4
0.19834	492.1	181.8	30.0	0.0262	0.0	21.2	0.07 3.00E-4
0.19838	491.7	183.2	35.0	0.0461	0.0	21.2	0.07 3.00E-4
0.19838	491.5	184.6	40.0	0.0659	0.0	21.2	0.07 3.00E-4
0.19834	491.4	186.1	45.0	0.0858	0.0	21.2	0.07 3.00E-4
0.19829	491.3	187.5	50.0	0.106	0.0	21.2	0.07 3.00E-4
0.19824	491.2	188.8	55.0	0.125	0.0	21.2	0.07 3.00E-4
0.19818	491.1	190.2	60.0	0.145	0.0	21.2	0.07 3.00E-4
0.19811	491.1	191.6	65.0	0.165	0.0	21.2	0.07 3.00E-4
0.19804	491.1	192.9	70.0	0.185	0.0	21.2	0.07 3.00E-4
0.19797	491.0	194.3	75.0	0.205	0.0	21.2	0.07 3.00E-4
0.19789	491.0	195.6	80.0	0.225	0.0	21.2	0.07 3.00E-4
0.1978	491.0	197.0	85.0	0.244	0.0	21.2	0.07 3.00E-4
0.19771	491.0	198.3	90.0	0.264	0.0	21.2	0.07 3.00E-4
0.19761	491.0	199.6	95.0	0.284	0.0	21.2	0.07 3.00E-4
0.1975	491.1	200.9	100.0	0.304	0.0	21.2	0.07 3.00E-4
0.19738	491.2	202.2	105.0	0.324	0.0	21.2	0.07 3.00E-4
0.19724	491.3	203.5	110.0	0.344	0.0	21.2	0.07 3.00E-4
0.19708	491.5	204.8	115.0	0.364	0.0	21.2	0.07 3.00E-4
0.19691	491.7	206.0	120.0	0.383	0.0	21.2	0.07 3.00E-4
0.19672	492.0	207.3	125.0	0.403	0.0	21.2	0.07 3.00E-4
0.19651	492.3	208.6	130.0	0.423	0.0	21.2	0.07 3.00E-4
0.19628	492.7	209.8	135.0	0.443	0.0	21.2	0.07 3.00E-4
0.19603	493.1	211.0	140.0	0.463	0.0	21.2	0.07 3.00E-4
0.19576	493.6	212.3	145.0	0.483	0.0	21.2	0.07 3.00E-4
0.19547	494.1	213.5	150.0	0.502	0.0	21.2	0.07 3.00E-4
0.19516	494.7	214.7	155.0	0.522	0.0	21.2	0.07 3.00E-4
0.19484	495.3	215.9	160.0	0.542	0.0	21.2	0.07 3.00E-4
0.1945	496.0	217.1	165.0	0.562	0.0	21.2	0.07 3.00E-4
0.19415	496.7	218.3	170.0	0.582	0.0	21.2	0.07 3.00E-4
0.19378	497.4	219.5	175.0	0.602	0.0	21.2	0.07 3.00E-4
0.1934	498.2	220.7	180.0	0.621	0.0	21.2	0.07 3.00E-4
0.193	499.0	221.9	185.0	0.641	0.0	21.2	0.07 3.00E-4
0.19259	499.9	223.1	190.0	0.661	0.0	21.2	0.07 3.00E-4
0.19217	500.8	224.2	195.0	0.681	0.0	21.2	0.07 3.00E-4
0.19174	501.7	225.4	200.0	0.701	0.0	21.2	0.07 3.00E-4
0.19129	502.7	226.6	205.0	0.721	0.0	21.2	0.07 3.00E-4
0.19083	503.7	227.7	210.0	0.741	0.0	21.2	0.07 3.00E-4
0.19037	504.7	228.9	215.0	0.76	0.0	21.2	0.07 3.00E-4
0.1899	505.8	230.0	220.0	0.78	0.0	21.2	0.07 3.00E-4
0.18942	506.9	231.1	225.0	0.8	0.0	21.2	0.07 3.00E-4

					Kailua_min8.txt			
0.18892	508.0	232.2	230.0	0.82	0.0	21.2	0.07	3.00E-4
0.18842	509.1	233.4	235.0	0.84	0.0	21.2	0.07	3.00E-4
0.18792	510.3	234.5	240.0	0.86	0.0	21.2	0.07	3.00E-4
0.18739	511.6	235.6	245.0	0.879	0.0	21.2	0.07	3.00E-4
0.18687	512.8	236.7	250.0	0.899	0.0	21.2	0.07	3.00E-4
0.18635	514.0	237.8	255.0	0.919	0.0	21.2	0.07	3.00E-4
0.18583	515.3	238.9	260.0	0.939	0.0	21.2	0.07	3.00E-4
0.1853	516.5	240.0	265.0	0.959	0.0	21.2	0.07	3.00E-4
0.18476	517.8	241.1	270.0	0.979	0.0	21.2	0.07	3.00E-4
0.18422	519.2	242.2	275.0	0.998	0.0	21.2	0.07	3.00E-4
0.18369	520.5	243.2	280.0	1.018	0.0	21.2	0.07	3.00E-4
0.18315	521.8	244.3	285.0	1.038	0.0	21.2	0.07	3.00E-4
0.18261	523.1	245.4	290.0	1.058	0.0	21.2	0.07	3.00E-4
0.18206	524.5	246.4	295.0	1.078	0.0	21.2	0.07	3.00E-4
0.18152	525.9	247.5	300.0	1.098	0.0	21.2	0.07	3.00E-4
0.18097	527.3	248.5	305.0	1.118	0.0	21.2	0.07	3.00E-4

count: 57

/ windows UM3.

Case 30; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir deg	Disprsn m/s ^{0.67} /s ²	deg	psu	C	kg/kg	s-1	
0.07	0.0	0.07 0.0003	90.0	35.16	24.2	0.0	0.000312	
0.07	2.0	0.07 0.0003	90.0	35.16	24.2	0.0	0.000312	
0.07	4.0	0.07 0.0003	90.0	35.15	24.21	0.0	0.000312	
0.07	6.0	0.07 0.0003	90.0	35.15	24.2	0.0	0.000312	
0.07	8.0	0.07 0.0003	90.0	35.16	24.16	0.0	0.000312	
0.07	10.0	0.07 0.0003	90.0	35.17	24.09	0.0	0.000312	
0.07	12.0	0.07 0.0003	90.0	35.19	24.06	0.0	0.000312	
0.07	14.0	0.07 0.0003	90.0	35.19	24.05	0.0	0.000312	
0.07	16.0	0.07 0.0003	90.0	35.19	24.05	0.0	0.000312	
0.07	18.0	0.07 0.0003	90.0	35.19	24.05	0.0	0.000312	
0.07	20.0	0.07 0.0003	90.0	35.19	24.04	0.0	0.000312	
0.07	22.0	0.07 0.0003	90.0	35.19	24.01	0.0	0.000312	
0.07	24.0	0.07 0.0003	90.0	35.18	23.93	0.0	0.000312	
0.07	26.0	0.07 0.0003	90.0	35.22	23.77	0.0	0.000312	
0.07	28.0	0.07 0.0003	90.0	35.24	23.74	0.0	0.000312	
0.07	30.0	0.07 0.0003	90.0	35.24	23.74	0.0	0.000312	
0.07	32.0	0.07 0.0003	90.0	35.24	23.77	0.0	0.000312	
0.07	33.0	0.07 0.0003	90.0	35.23	23.79	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo (MGD)	Temp (C)							
17.89	28.04							

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Froude number: 7.103

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.255	67.3	1.475	-0.245	0.356;
40	105.4	0.07	10.56	45.29	2.181	-0.576	0.858;
60	105.3	0.07	15.23	30.48	3.231	-1.008	1.554;
80	105.1	0.07	21.52	20.51	4.79	-1.546	2.493;
100	104.5	0.07	29.42	13.8	7.107	-2.168	3.704;
120	103.6	0.07	38.84	9.289	10.55	-2.778	5.072;
140	102.3	0.07	50.2	6.251	15.67	-3.325	6.544;
160	100.5	0.07	64.19	4.207	23.27	-3.809	8.167;
180	98.24	0.07	81.67	2.831	34.57	-4.238	10.03;
200	95.45	0.07	103.6	1.905	51.35	-4.619	12.24;
217	92.58	0.07	126.8	1.36	71.9	-4.91	14.51; merging,
220	91.94	0.07	131.6	1.282	76.3	-4.966	15.02;
240	86.14	0.07	180.4	0.863	113.4	-5.366	19.53;
260	77.49	0.07	273.5	0.58	168.4	-5.788	26.33; axial vel
0.0087							
280	65.63	0.07	460.2	0.39	250.3	-6.258	37.31;
289	58.95	0.07	584.5	0.327	299.1	-6.498	44.61; max dilution
reached							
300	49.34	0.07	776.8	0.263	371.9	-6.823	56.57;
313	35.27	0.07	1070.7	0.203	481.1	-7.259	76.85; trap1 level,
surface,							
Const Eddy Diffusivity.							
m							

Farfield dispersion based on wastefield width of 180.00 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	time (ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.20206	483.2	180.4	25.0	0.00584	0.0	21.2	0.07 3.00E-4
0.2023	482.4	181.9	30.0	0.0257	0.0	21.2	0.07 3.00E-4
0.20235	482.1	183.3	35.0	0.0455	0.0	21.2	0.07 3.00E-4
0.20234	481.9	184.7	40.0	0.0654	0.0	21.2	0.07 3.00E-4
0.20231	481.8	186.1	45.0	0.0852	0.0	21.2	0.07 3.00E-4
0.20226	481.7	187.5	50.0	0.105	0.0	21.2	0.07 3.00E-4
0.20221	481.6	188.9	55.0	0.125	0.0	21.2	0.07 3.00E-4
0.20214	481.5	190.3	60.0	0.145	0.0	21.2	0.07 3.00E-4
0.20207	481.5	191.7	65.0	0.165	0.0	21.2	0.07 3.00E-4
0.202	481.4	193.0	70.0	0.184	0.0	21.2	0.07 3.00E-4
0.20193	481.4	194.4	75.0	0.204	0.0	21.2	0.07 3.00E-4
0.20185	481.4	195.7	80.0	0.224	0.0	21.2	0.07 3.00E-4
0.20176	481.4	197.0	85.0	0.244	0.0	21.2	0.07 3.00E-4
0.20167	481.4	198.4	90.0	0.264	0.0	21.2	0.07 3.00E-4
0.20157	481.4	199.7	95.0	0.284	0.0	21.2	0.07 3.00E-4
0.20145	481.5	201.0	100.0	0.303	0.0	21.2	0.07 3.00E-4
0.20133	481.6	202.3	105.0	0.323	0.0	21.2	0.07 3.00E-4
0.20119	481.7	203.6	110.0	0.343	0.0	21.2	0.07 3.00E-4
0.20103	481.9	204.8	115.0	0.363	0.0	21.2	0.07 3.00E-4
0.20085	482.1	206.1	120.0	0.383	0.0	21.2	0.07 3.00E-4
0.20066	482.4	207.4	125.0	0.403	0.0	21.2	0.07 3.00E-4
0.20045	482.7	208.6	130.0	0.423	0.0	21.2	0.07 3.00E-4
0.20021	483.0	209.9	135.0	0.442	0.0	21.2	0.07 3.00E-4
0.19996	483.4	211.1	140.0	0.462	0.0	21.2	0.07 3.00E-4
0.19969	483.9	212.4	145.0	0.482	0.0	21.2	0.07 3.00E-4
0.19939	484.4	213.6	150.0	0.502	0.0	21.2	0.07 3.00E-4
0.19908	485.0	214.8	155.0	0.522	0.0	21.2	0.07 3.00E-4
0.19875	485.6	216.0	160.0	0.542	0.0	21.2	0.07 3.00E-4
0.19841	486.2	217.2	165.0	0.561	0.0	21.2	0.07 3.00E-4
0.19805	486.9	218.4	170.0	0.581	0.0	21.2	0.07 3.00E-4
0.19767	487.6	219.6	175.0	0.601	0.0	21.2	0.07 3.00E-4
0.19728	488.4	220.8	180.0	0.621	0.0	21.2	0.07 3.00E-4
0.19688	489.2	222.0	185.0	0.641	0.0	21.2	0.07 3.00E-4
0.19646	490.1	223.2	190.0	0.661	0.0	21.2	0.07 3.00E-4

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0.19603	490.9	224.3	195.0	0.68	0.0	21.2	0.07	3.00E-4
0.19559	491.8	225.5	200.0	0.7	0.0	21.2	0.07	3.00E-4
0.19514	492.8	226.6	205.0	0.72	0.0	21.2	0.07	3.00E-4
0.19467	493.8	227.8	210.0	0.74	0.0	21.2	0.07	3.00E-4
0.19419	494.8	228.9	215.0	0.76	0.0	21.2	0.07	3.00E-4
0.19372	495.8	230.1	220.0	0.78	0.0	21.2	0.07	3.00E-4
0.19323	496.9	231.2	225.0	0.799	0.0	21.2	0.07	3.00E-4
0.19272	498.0	232.3	230.0	0.819	0.0	21.2	0.07	3.00E-4
0.19222	499.1	233.5	235.0	0.839	0.0	21.2	0.07	3.00E-4
0.1917	500.3	234.6	240.0	0.859	0.0	21.2	0.07	3.00E-4
0.19116	501.5	235.7	245.0	0.879	0.0	21.2	0.07	3.00E-4
0.19063	502.7	236.8	250.0	0.899	0.0	21.2	0.07	3.00E-4
0.1901	503.9	237.9	255.0	0.919	0.0	21.2	0.07	3.00E-4
0.18957	505.1	239.0	260.0	0.938	0.0	21.2	0.07	3.00E-4
0.18903	506.4	240.1	265.0	0.958	0.0	21.2	0.07	3.00E-4
0.18848	507.6	241.2	270.0	0.978	0.0	21.2	0.07	3.00E-4
0.18793	508.9	242.3	275.0	0.998	0.0	21.2	0.07	3.00E-4
0.18739	510.2	243.3	280.0	1.018	0.0	21.2	0.07	3.00E-4
0.18684	511.5	244.4	285.0	1.038	0.0	21.2	0.07	3.00E-4
0.18629	512.8	245.5	290.0	1.057	0.0	21.2	0.07	3.00E-4
0.18573	514.2	246.5	295.0	1.077	0.0	21.2	0.07	3.00E-4
0.18517	515.5	247.6	300.0	1.097	0.0	21.2	0.07	3.00E-4
0.18461	516.9	248.6	305.0	1.117	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 31; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn 0.67/s ²	Amb-dir deg	Amb-sal	Amb-tem	Amb-pol	Solar rad
						psu	C	kg/kg	s-1
0.07	0.0	90.0	0.07	0.0003	90.0	35.1	25.79	0.0	0.000312
0.07	2.0	90.0	0.07	0.0003	90.0	35.1	25.79	0.0	0.000312
0.07	4.0	90.0	0.07	0.0003	90.0	35.1	25.79	0.0	0.000312
0.07	6.0	90.0	0.07	0.0003	90.0	35.1	25.79	0.0	0.000312
0.07	8.0	90.0	0.07	0.0003	90.0	35.09	25.79	0.0	0.000312
0.07	10.0	90.0	0.07	0.0003	90.0	35.1	25.79	0.0	0.000312
0.07	12.0	90.0	0.07	0.0003	90.0	35.09	25.79	0.0	0.000312
0.07	14.0	90.0	0.07	0.0003	90.0	35.09	25.79	0.0	0.000312
0.07	16.0	90.0	0.07	0.0003	90.0	35.1	25.79	0.0	0.000312
0.07	18.0	90.0	0.07	0.0003	90.0	35.09	25.79	0.0	0.000312
0.07	20.0	90.0	0.07	0.0003	90.0	35.09	25.75	0.0	0.000312
0.07	22.0	90.0	0.07	0.0003	90.0	35.07	25.74	0.0	0.000312
0.07	24.0	90.0	0.07	0.0003	90.0	35.09	25.73	0.0	0.000312
0.07	26.0	90.0	0.07	0.0003	90.0	35.05	25.72	0.0	0.000312
0.07	28.0	90.0	0.07	0.0003	90.0	35.06	25.72	0.0	0.000312
0.07	30.0	90.0	0.07	0.0003	90.0	35.08	25.71	0.0	0.000312

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0.07	32.0	0.07	90.0	35.08	25.7	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.06	25.69	0.0	0.000312	
	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.87	28.04							
Froude number:	6.402							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.245	67.3	1.475	-0.241	0.351;	
40	105.4	0.07	10.52	45.29	2.182	-0.563	0.843;	
60	105.3	0.07	15.1	30.48	3.232	-0.978	1.52;	
80	105.0	0.07	21.17	20.51	4.793	-1.486	2.427;	
100	104.5	0.07	28.64	13.8	7.112	-2.05	3.562;	
120	103.5	0.07	37.55	9.289	10.56	-2.582	4.812;	
140	102.2	0.07	48.36	6.251	15.68	-3.056	6.162;	
160	100.6	0.07	61.75	4.207	23.29	-3.475	7.671;	
180	98.47	0.07	78.52	2.831	34.59	-3.847	9.423;	
200	95.86	0.07	99.68	1.905	51.39	-4.178	11.53;	
220	92.7	0.07	126.5	1.282	76.35	-4.472	14.12; merging,	
240	87.62	0.07	171.9	0.863	113.4	-4.809	18.34;	
260	79.73	0.07	247.4	0.58	168.6	-5.168	24.79;	
280	67.57	0.07	358.6	0.391	250.5	-5.531	34.25;	
295	54.61	0.07	480.7	0.29	337.1	-5.803	44.07; axial vel	
0.022 max dilution reached								
300	49.37	0.07	531.3	0.263	372.2	-5.893	48.02;	
320	22.18	0.07	795.4	0.177	553.0	-6.26	68.51; axial vel	
0.0888								
322	18.81	0.07	828.5	0.17	575.4	-6.297	71.04;	
(trap1) surface,								
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						173.85	
m	conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.1692	577.4	174.8	25.0	0.0129	0.0	21.2	0.07	3.00E-4
0.16932	576.7	176.2	30.0	0.0328	0.0	21.2	0.07	3.00E-4
0.16934	576.4	177.6	35.0	0.0526	0.0	21.2	0.07	3.00E-4
0.16933	576.2	179.0	40.0	0.0725	0.0	21.2	0.07	3.00E-4
0.16929	576.0	180.4	45.0	0.0923	0.0	21.2	0.07	3.00E-4
0.16925	575.9	181.8	50.0	0.112	0.0	21.2	0.07	3.00E-4
0.1692	575.8	183.1	55.0	0.132	0.0	21.2	0.07	3.00E-4
0.16915	575.8	184.5	60.0	0.152	0.0	21.2	0.07	3.00E-4
0.16909	575.7	185.9	65.0	0.172	0.0	21.2	0.07	3.00E-4
0.16903	575.7	187.2	70.0	0.192	0.0	21.2	0.07	3.00E-4
0.16896	575.7	188.5	75.0	0.211	0.0	21.2	0.07	3.00E-4
0.16889	575.6	189.8	80.0	0.231	0.0	21.2	0.07	3.00E-4
0.16882	575.6	191.1	85.0	0.251	0.0	21.2	0.07	3.00E-4
0.16873	575.7	192.4	90.0	0.271	0.0	21.2	0.07	3.00E-4
0.16864	575.7	193.7	95.0	0.291	0.0	21.2	0.07	3.00E-4
0.16854	575.8	195.0	100.0	0.311	0.0	21.2	0.07	3.00E-4
0.16842	576.0	196.3	105.0	0.33	0.0	21.2	0.07	3.00E-4
0.16829	576.2	197.6	110.0	0.35	0.0	21.2	0.07	3.00E-4
0.16815	576.4	198.8	115.0	0.37	0.0	21.2	0.07	3.00E-4
0.16799	576.8	200.1	120.0	0.39	0.0	21.2	0.07	3.00E-4
0.16781	577.1	201.3	125.0	0.41	0.0	21.2	0.07	3.00E-4
0.16761	577.5	202.6	130.0	0.43	0.0	21.2	0.07	3.00E-4
0.1674	578.0	203.8	135.0	0.449	0.0	21.2	0.07	3.00E-4
0.16717	578.6	205.0	140.0	0.469	0.0	21.2	0.07	3.00E-4
0.16691	579.3	206.2	145.0	0.489	0.0	21.2	0.07	3.00E-4
0.16665	579.9	207.4	150.0	0.509	0.0	21.2	0.07	3.00E-4
0.16637	580.7	208.6	155.0	0.529	0.0	21.2	0.07	3.00E-4

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0.16608	581.4	209.8	160.0	0.549	0.0	21.2	0.07	3.00E-4
0.16578	582.3	211.0	165.0	0.568	0.0	21.2	0.07	3.00E-4
0.16545	583.2	212.2	170.0	0.588	0.0	21.2	0.07	3.00E-4
0.16512	584.1	213.3	175.0	0.608	0.0	21.2	0.07	3.00E-4
0.16477	585.1	214.5	180.0	0.628	0.0	21.2	0.07	3.00E-4
0.16442	586.2	215.7	185.0	0.648	0.0	21.2	0.07	3.00E-4
0.16405	587.2	216.8	190.0	0.668	0.0	21.2	0.07	3.00E-4
0.16367	588.3	218.0	195.0	0.688	0.0	21.2	0.07	3.00E-4
0.16328	589.5	219.1	200.0	0.707	0.0	21.2	0.07	3.00E-4
0.16288	590.7	220.3	205.0	0.727	0.0	21.2	0.07	3.00E-4
0.16247	592.0	221.4	210.0	0.747	0.0	21.2	0.07	3.00E-4
0.16207	593.2	222.5	215.0	0.767	0.0	21.2	0.07	3.00E-4
0.16164	594.6	223.6	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.16121	595.9	224.7	225.0	0.807	0.0	21.2	0.07	3.00E-4
0.16078	597.3	225.8	230.0	0.826	0.0	21.2	0.07	3.00E-4
0.16033	598.7	226.9	235.0	0.846	0.0	21.2	0.07	3.00E-4
0.15987	600.2	228.0	240.0	0.866	0.0	21.2	0.07	3.00E-4
0.15942	601.7	229.1	245.0	0.886	0.0	21.2	0.07	3.00E-4
0.15897	603.2	230.2	250.0	0.906	0.0	21.2	0.07	3.00E-4
0.15851	604.7	231.3	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.15804	606.2	232.4	260.0	0.945	0.0	21.2	0.07	3.00E-4
0.15757	607.8	233.5	265.0	0.965	0.0	21.2	0.07	3.00E-4
0.1571	609.4	234.5	270.0	0.985	0.0	21.2	0.07	3.00E-4
0.15664	610.9	235.6	275.0	1.005	0.0	21.2	0.07	3.00E-4
0.15617	612.6	236.6	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.1557	614.2	237.7	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.15522	615.8	238.7	290.0	1.065	0.0	21.2	0.07	3.00E-4
0.15474	617.5	239.8	295.0	1.084	0.0	21.2	0.07	3.00E-4
0.15426	619.2	240.8	300.0	1.104	0.0	21.2	0.07	3.00E-4
0.15378	620.9	241.9	305.0	1.124	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 32; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur		Amb-dir deg	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
		Far-dir deg	Disprsn m0.67/s2	deg				
0.07	0.0	90.0	0.0003	90.0	35.1	25.79	0.0	0.000312
0.07	2.0	90.0	0.0003	90.0	35.1	25.79	0.0	0.000312
0.07	4.0	90.0	0.0003	90.0	35.1	25.79	0.0	0.000312
0.07	6.0	90.0	0.0003	90.0	35.1	25.79	0.0	0.000312
0.07	8.0	90.0	0.0003	90.0	35.09	25.79	0.0	0.000312
0.07	10.0	90.0	0.0003	90.0	35.1	25.79	0.0	0.000312
0.07	12.0	90.0	0.0003	90.0	35.09	25.79	0.0	0.000312
0.07	14.0	90.0	0.0003	90.0	35.09	25.79	0.0	0.000312
0.07	16.0	90.0	0.0003	90.0	35.1	25.79	0.0	0.000312
0.07	18.0	90.0	0.0003	90.0	35.09	25.79	0.0	0.000312
0.07	20.0	90.0	0.0003	90.0	35.09	25.75	0.0	0.000312
0.07	22.0	90.0	0.0003	90.0	35.07	25.74	0.0	0.000312
0.07	24.0	90.0	0.0003	90.0	35.09	25.73	0.0	0.000312

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0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.05	25.72	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.06	25.72	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.08	25.71	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.08	25.7	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.06	25.69	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
18.85	28.04							
Froude number:	7.604							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.26	67.3	1.475	-0.247	0.358	
40	105.4	0.07	10.58	45.29	2.182	-0.582	0.865	
60	105.3	0.07	15.29	30.48	3.232	-1.022	1.569	
80	105.1	0.07	21.7	20.51	4.793	-1.574	2.525	
100	104.6	0.07	29.86	13.8	7.112	-2.224	3.773	
120	103.7	0.07	39.66	9.289	10.56	-2.879	5.216	
140	102.3	0.07	51.44	6.251	15.68	-3.471	6.772	
160	100.6	0.07	65.91	4.207	23.29	-3.996	8.48	
180	98.3	0.07	83.98	2.831	34.59	-4.461	10.43	
200	95.47	0.07	106.7	1.905	51.39	-4.874	12.74	
215	92.94	0.07	127.7	1.415	69.16	-5.155	14.79	
220	91.82	0.07	136.3	1.282	76.35	-5.26	15.7	
240	85.73	0.07	189.1	0.863	113.4	-5.71	20.56	
260	76.24	0.07	271.7	0.58	168.6	-6.182	27.8	
280	61.75	0.07	397.8	0.39	250.5	-6.654	38.24; axial vel	
0.0171								
286	56.11	0.07	447.9	0.347	282.1	-6.795	42.21; max dilution	
reached								
300	40.02	0.07	594.1	0.263	372.2	-7.127	53.48	
314	18.62	0.07	787.7	0.199	491.1	-7.461	68.38; axial vel	
0.111 (trap1) surface,								
Const Eddy Diffusivity.								
m								
	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr)	
0.19831	492.7	174.0	25.0	0.016	0.0	21.2	0.07 3.00E-4	
0.19842	492.2	175.4	30.0	0.0359	0.0	21.2	0.07 3.00E-4	
0.19844	491.9	176.8	35.0	0.0557	0.0	21.2	0.07 3.00E-4	
0.19841	491.7	178.2	40.0	0.0755	0.0	21.2	0.07 3.00E-4	
0.19837	491.6	179.6	45.0	0.0954	0.0	21.2	0.07 3.00E-4	
0.19832	491.5	180.9	50.0	0.115	0.0	21.2	0.07 3.00E-4	
0.19826	491.5	182.3	55.0	0.135	0.0	21.2	0.07 3.00E-4	
0.19819	491.4	183.7	60.0	0.155	0.0	21.2	0.07 3.00E-4	
0.19813	491.4	185.0	65.0	0.175	0.0	21.2	0.07 3.00E-4	
0.19805	491.3	186.3	70.0	0.195	0.0	21.2	0.07 3.00E-4	
0.19798	491.3	187.7	75.0	0.214	0.0	21.2	0.07 3.00E-4	
0.19789	491.3	189.0	80.0	0.234	0.0	21.2	0.07 3.00E-4	
0.1978	491.3	190.3	85.0	0.254	0.0	21.2	0.07 3.00E-4	
0.1977	491.3	191.6	90.0	0.274	0.0	21.2	0.07 3.00E-4	
0.19759	491.4	192.9	95.0	0.294	0.0	21.2	0.07 3.00E-4	
0.19747	491.5	194.1	100.0	0.314	0.0	21.2	0.07 3.00E-4	
0.19733	491.6	195.4	105.0	0.333	0.0	21.2	0.07 3.00E-4	
0.19717	491.8	196.7	110.0	0.353	0.0	21.2	0.07 3.00E-4	
0.197	492.0	197.9	115.0	0.373	0.0	21.2	0.07 3.00E-4	
0.19681	492.3	199.2	120.0	0.393	0.0	21.2	0.07 3.00E-4	

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0.19659	492.7	200.4	125.0	0.413	0.0	21.2	0.07	3.00E-4
0.19636	493.0	201.6	130.0	0.433	0.0	21.2	0.07	3.00E-4
0.1961	493.5	202.9	135.0	0.453	0.0	21.2	0.07	3.00E-4
0.19581	494.0	204.1	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.19552	494.5	205.3	145.0	0.492	0.0	21.2	0.07	3.00E-4
0.19521	495.1	206.5	150.0	0.512	0.0	21.2	0.07	3.00E-4
0.19488	495.8	207.7	155.0	0.532	0.0	21.2	0.07	3.00E-4
0.19453	496.4	208.9	160.0	0.552	0.0	21.2	0.07	3.00E-4
0.19416	497.2	210.1	165.0	0.572	0.0	21.2	0.07	3.00E-4
0.19378	498.0	211.2	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.19339	498.8	212.4	175.0	0.611	0.0	21.2	0.07	3.00E-4
0.19298	499.6	213.6	180.0	0.631	0.0	21.2	0.07	3.00E-4
0.19255	500.5	214.7	185.0	0.651	0.0	21.2	0.07	3.00E-4
0.19212	501.5	215.9	190.0	0.671	0.0	21.2	0.07	3.00E-4
0.19167	502.4	217.0	195.0	0.691	0.0	21.2	0.07	3.00E-4
0.19121	503.5	218.2	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.19073	504.5	219.3	205.0	0.73	0.0	21.2	0.07	3.00E-4
0.19026	505.6	220.4	210.0	0.75	0.0	21.2	0.07	3.00E-4
0.18977	506.7	221.5	215.0	0.77	0.0	21.2	0.07	3.00E-4
0.18927	507.8	222.6	220.0	0.79	0.0	21.2	0.07	3.00E-4
0.18876	509.0	223.8	225.0	0.81	0.0	21.2	0.07	3.00E-4
0.18824	510.2	224.9	230.0	0.83	0.0	21.2	0.07	3.00E-4
0.18772	511.4	226.0	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.18718	512.7	227.0	240.0	0.869	0.0	21.2	0.07	3.00E-4
0.18665	514.0	228.1	245.0	0.889	0.0	21.2	0.07	3.00E-4
0.18611	515.2	229.2	250.0	0.909	0.0	21.2	0.07	3.00E-4
0.18557	516.6	230.3	255.0	0.929	0.0	21.2	0.07	3.00E-4
0.18502	517.9	231.4	260.0	0.949	0.0	21.2	0.07	3.00E-4
0.18447	519.2	232.4	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.18393	520.6	233.5	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.18337	521.9	234.6	275.0	1.008	0.0	21.2	0.07	3.00E-4
0.18282	523.3	235.6	280.0	1.028	0.0	21.2	0.07	3.00E-4
0.18226	524.7	236.7	285.0	1.048	0.0	21.2	0.07	3.00E-4
0.1817	526.1	237.7	290.0	1.068	0.0	21.2	0.07	3.00E-4
0.18114	527.6	238.7	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.18057	529.0	239.8	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.18001	530.5	240.8	305.0	1.127	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 33; ambient file C:\Plumes\kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir	Disprsn						s-1
m/s	m	m/s	deg	psu	C	kg/kg		
0.07	0.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	2.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	4.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	6.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	8.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	10.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	12.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	14.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	16.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						

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0.07	18.0	0.07	90.0	35.39	26.04	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.39	26.04	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.39	26.04	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.39	26.04	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.39	26.03	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.39	26.03	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.38	26.02	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.37	25.96	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.37	25.91	0.0	0.000312	
	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
17.4	28.04							
Froude number:	6.997							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.253	67.3	1.475	-0.244	0.355	
40	105.4	0.07	10.56	45.29	2.182	-0.573	0.855	
60	105.3	0.07	15.21	30.48	3.232	-1.002	1.547	
80	105.1	0.07	21.46	20.51	4.792	-1.534	2.48	
100	104.5	0.07	29.3	13.8	7.111	-2.144	3.678	
120	103.6	0.07	38.65	9.289	10.56	-2.739	5.026	
140	102.3	0.07	49.95	6.251	15.68	-3.272	6.479	
160	100.5	0.07	63.89	4.207	23.28	-3.743	8.086	
180	98.36	0.07	81.35	2.831	34.59	-4.162	9.936	
200	95.63	0.07	103.3	1.905	51.38	-4.534	12.14	
218	92.64	0.07	127.8	1.334	73.38	-4.836	14.57	
220	92.21	0.07	131.1	1.282	76.34	-4.873	14.92	
240	86.57	0.07	178.6	0.863	113.4	-5.262	19.42	
260	77.83	0.07	257.3	0.58	168.5	-5.668	26.12	
280	64.56	0.07	379.2	0.391	250.4	-6.082	35.99	
290	55.56	0.07	461.7	0.32	305.3	-6.291	42.57	
0.0214 max dilution reached							axial vel	
300	44.51	0.07	562.6	0.263	372.1	-6.5	50.55	
318	17.98	0.07	803.9	0.184	531.5	-6.878	69.47	
0.115 (trap1)surface,							axial vel	
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						173.22	
m	conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.18319	533.2	174.3	25.0	0.0148	0.0	21.2	0.07	3.00E-4
0.1833	532.7	175.7	30.0	0.0346	0.0	21.2	0.07	3.00E-4
0.18332	532.4	177.1	35.0	0.0544	0.0	21.2	0.07	3.00E-4
0.1833	532.2	178.5	40.0	0.0743	0.0	21.2	0.07	3.00E-4
0.18326	532.1	179.9	45.0	0.0941	0.0	21.2	0.07	3.00E-4
0.18321	532.0	181.3	50.0	0.114	0.0	21.2	0.07	3.00E-4
0.18316	531.9	182.6	55.0	0.134	0.0	21.2	0.07	3.00E-4
0.1831	531.9	184.0	60.0	0.154	0.0	21.2	0.07	3.00E-4
0.18303	531.8	185.3	65.0	0.173	0.0	21.2	0.07	3.00E-4
0.18297	531.8	186.7	70.0	0.193	0.0	21.2	0.07	3.00E-4
0.18289	531.7	188.0	75.0	0.213	0.0	21.2	0.07	3.00E-4
0.18282	531.7	189.3	80.0	0.233	0.0	21.2	0.07	3.00E-4
0.18274	531.7	190.6	85.0	0.253	0.0	21.2	0.07	3.00E-4
0.18265	531.8	191.9	90.0	0.273	0.0	21.2	0.07	3.00E-4

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0.18254	531.8	193.2	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.18243	531.9	194.5	100.0	0.312	0.0	21.2	0.07	3.00E-4
0.1823	532.1	195.8	105.0	0.332	0.0	21.2	0.07	3.00E-4
0.18216	532.3	197.0	110.0	0.352	0.0	21.2	0.07	3.00E-4
0.182	532.5	198.3	115.0	0.372	0.0	21.2	0.07	3.00E-4
0.18182	532.8	199.5	120.0	0.392	0.0	21.2	0.07	3.00E-4
0.18163	533.1	200.8	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.18141	533.6	202.0	130.0	0.431	0.0	21.2	0.07	3.00E-4
0.18118	534.0	203.2	135.0	0.451	0.0	21.2	0.07	3.00E-4
0.18093	534.5	204.4	140.0	0.471	0.0	21.2	0.07	3.00E-4
0.18065	535.2	205.7	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.18036	535.8	206.9	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.18006	536.5	208.1	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.17974	537.2	209.2	160.0	0.55	0.0	21.2	0.07	3.00E-4
0.1794	538.0	210.4	165.0	0.57	0.0	21.2	0.07	3.00E-4
0.17905	538.8	211.6	170.0	0.59	0.0	21.2	0.07	3.00E-4
0.17869	539.7	212.8	175.0	0.61	0.0	21.2	0.07	3.00E-4
0.17831	540.6	213.9	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.17792	541.6	215.1	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.17752	542.6	216.2	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.17711	543.7	217.4	195.0	0.689	0.0	21.2	0.07	3.00E-4
0.17669	544.7	218.5	200.0	0.709	0.0	21.2	0.07	3.00E-4
0.17625	545.9	219.7	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.17581	547.0	220.8	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.17536	548.2	221.9	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.1749	549.4	223.0	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.17443	550.7	224.1	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.17396	552.0	225.2	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.17348	553.3	226.3	235.0	0.848	0.0	21.2	0.07	3.00E-4
0.17298	554.7	227.4	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.17249	556.1	228.5	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.17199	557.4	229.6	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.17149	558.9	230.7	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.17099	560.3	231.8	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.17048	561.7	232.8	265.0	0.967	0.0	21.2	0.07	3.00E-4
0.16998	563.2	233.9	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.16947	564.7	235.0	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.16896	566.2	236.0	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.16844	567.7	237.1	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.16793	569.2	238.1	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.16741	570.7	239.1	295.0	1.086	0.0	21.2	0.07	3.00E-4
0.16689	572.3	240.2	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.16636	573.9	241.2	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 34; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir	Disprsn						s-1
m/s	m	m/s	deg	m0.67/s2	psu	C	kg/kg	
0.07	0.0	0.07	90.0	0.0003	35.39	26.04	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003	4.0	0.07	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003	6.0	0.07	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003	8.0	0.07	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003	10.0	0.07	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003	90.0	0.07	35.39	26.04	0.0	0.000312

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0.07	12.0	0.07	90.0	35.39	26.04	0.0	0.000312
	90.0	0.0003					
0.07	14.0	0.07	90.0	35.39	26.04	0.0	0.000312
	90.0	0.0003					
0.07	16.0	0.07	90.0	35.39	26.04	0.0	0.000312
	90.0	0.0003					
0.07	18.0	0.07	90.0	35.39	26.04	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	35.39	26.04	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	35.39	26.04	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	35.39	26.04	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	35.39	26.03	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	35.39	26.03	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	35.38	26.02	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.37	25.96	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.37	25.91	0.0	0.000312
	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
21.33	28.04						
Froude number:	8.577						
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.269	67.3	1.475	-0.25	0.363;
40	105.4	0.07	10.62	45.29	2.182	-0.594	0.879;
60	105.4	0.07	15.4	30.48	3.232	-1.051	1.601;
80	105.2	0.07	22.0	20.51	4.792	-1.634	2.589;
100	104.7	0.07	30.62	13.8	7.111	-2.336	3.9;
120	103.8	0.07	41.1	9.289	10.56	-3.087	5.486;
140	102.4	0.07	53.65	6.251	15.68	-3.779	7.209;
160	100.6	0.07	68.97	4.207	23.28	-4.395	9.082;
180	98.2	0.07	88.04	2.831	34.59	-4.94	11.19;
200	95.2	0.07	112.0	1.905	51.38	-5.425	13.67;
212	93.08	0.07	129.2	1.502	65.16	-5.69	15.39; merging,
220	91.09	0.07	143.7	1.282	76.34	-5.897	16.97;
240	84.13	0.07	199.6	0.863	113.4	-6.442	22.24;
260	73.39	0.07	290.2	0.58	168.5	-7.001	29.91;
280	57.03	0.07	429.2	0.39	250.4	-7.568	41.09; axial vel
0.0209	max dilution reached						
300	32.3	0.07	637.9	0.263	372.1	-8.138	57.45;
310	15.59	0.07	778.1	0.215	453.6	-8.425	68.3; axial vel
0.139	(trap1)surface,						
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						172.57
m	conc	dilutn	width	distnce	time		
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr) (m/s)(m ^{0.67} /s ²)
0.21467	455.1	173.7	25.0	0.016	0.0	21.2	0.07 3.00E-4
0.21479	454.6	175.1	30.0	0.0358	0.0	21.2	0.07 3.00E-4
0.2148	454.4	176.5	35.0	0.0556	0.0	21.2	0.07 3.00E-4
0.21478	454.2	177.9	40.0	0.0755	0.0	21.2	0.07 3.00E-4
0.21473	454.1	179.3	45.0	0.0953	0.0	21.2	0.07 3.00E-4
0.21468	454.0	180.7	50.0	0.115	0.0	21.2	0.07 3.00E-4
0.21461	454.0	182.0	55.0	0.135	0.0	21.2	0.07 3.00E-4
0.21454	453.9	183.4	60.0	0.155	0.0	21.2	0.07 3.00E-4
0.21447	453.9	184.7	65.0	0.175	0.0	21.2	0.07 3.00E-4

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0.21439	453.9	186.1	70.0	0.195	0.0	21.2	0.07	3.00E-4
0.2143	453.8	187.4	75.0	0.214	0.0	21.2	0.07	3.00E-4
0.21421	453.8	188.7	80.0	0.234	0.0	21.2	0.07	3.00E-4
0.21412	453.8	190.0	85.0	0.254	0.0	21.2	0.07	3.00E-4
0.21401	453.9	191.3	90.0	0.274	0.0	21.2	0.07	3.00E-4
0.21389	453.9	192.6	95.0	0.294	0.0	21.2	0.07	3.00E-4
0.21376	454.0	193.9	100.0	0.314	0.0	21.2	0.07	3.00E-4
0.2136	454.1	195.1	105.0	0.333	0.0	21.2	0.07	3.00E-4
0.21343	454.3	196.4	110.0	0.353	0.0	21.2	0.07	3.00E-4
0.21325	454.5	197.7	115.0	0.373	0.0	21.2	0.07	3.00E-4
0.21304	454.8	198.9	120.0	0.393	0.0	21.2	0.07	3.00E-4
0.2128	455.1	200.1	125.0	0.413	0.0	21.2	0.07	3.00E-4
0.21255	455.4	201.4	130.0	0.433	0.0	21.2	0.07	3.00E-4
0.21227	455.8	202.6	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.21196	456.3	203.8	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.21164	456.8	205.0	145.0	0.492	0.0	21.2	0.07	3.00E-4
0.2113	457.4	206.2	150.0	0.512	0.0	21.2	0.07	3.00E-4
0.21094	458.0	207.4	155.0	0.532	0.0	21.2	0.07	3.00E-4
0.21057	458.6	208.6	160.0	0.552	0.0	21.2	0.07	3.00E-4
0.21017	459.3	209.8	165.0	0.572	0.0	21.2	0.07	3.00E-4
0.20976	460.0	211.0	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.20933	460.7	212.1	175.0	0.611	0.0	21.2	0.07	3.00E-4
0.20888	461.5	213.3	180.0	0.631	0.0	21.2	0.07	3.00E-4
0.20842	462.4	214.4	185.0	0.651	0.0	21.2	0.07	3.00E-4
0.20795	463.2	215.6	190.0	0.671	0.0	21.2	0.07	3.00E-4
0.20747	464.1	216.7	195.0	0.691	0.0	21.2	0.07	3.00E-4
0.20697	465.1	217.9	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.20645	466.1	219.0	205.0	0.73	0.0	21.2	0.07	3.00E-4
0.20594	467.0	220.1	210.0	0.75	0.0	21.2	0.07	3.00E-4
0.20541	468.1	221.3	215.0	0.77	0.0	21.2	0.07	3.00E-4
0.20486	469.1	222.4	220.0	0.79	0.0	21.2	0.07	3.00E-4
0.20431	470.2	223.5	225.0	0.81	0.0	21.2	0.07	3.00E-4
0.20375	471.3	224.6	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.20319	472.4	225.7	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.2026	473.6	226.8	240.0	0.869	0.0	21.2	0.07	3.00E-4
0.20202	474.8	227.9	245.0	0.889	0.0	21.2	0.07	3.00E-4
0.20144	476.0	228.9	250.0	0.909	0.0	21.2	0.07	3.00E-4
0.20085	477.2	230.0	255.0	0.929	0.0	21.2	0.07	3.00E-4
0.20026	478.4	231.1	260.0	0.949	0.0	21.2	0.07	3.00E-4
0.19966	479.7	232.2	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.19908	480.9	233.2	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.19848	482.2	234.3	275.0	1.008	0.0	21.2	0.07	3.00E-4
0.19787	483.5	235.3	280.0	1.028	0.0	21.2	0.07	3.00E-4
0.19727	484.8	236.4	285.0	1.048	0.0	21.2	0.07	3.00E-4
0.19666	486.1	237.4	290.0	1.068	0.0	21.2	0.07	3.00E-4
0.19605	487.4	238.5	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.19544	488.7	239.5	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.19483	490.1	240.5	305.0	1.127	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 35; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg	Amb-dir Disprsn m/s	Amb-sal deg	Amb-tem psu	Amb-pol c	Solar rad kg/kg	s-1
	0.0	0.07	90.0	0.0003	35.39	26.04	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.39	26.04	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.39	26.04	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.39	26.04	0.0	0.000312

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0.07	90.0	0.0003						
0.07	8.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	10.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.39	26.03	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.39	26.03	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.38	26.02	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.37	25.96	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.37	25.91	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
18.19	28.04							
Froude number:	7.314							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.257	67.3	1.475	-0.245	0.357;	
40	105.4	0.07	10.57	45.29	2.182	-0.578	0.86;	
60	105.3	0.07	15.25	30.48	3.232	-1.013	1.559;	
80	105.1	0.07	21.59	20.51	4.792	-1.556	2.505;	
100	104.6	0.07	29.6	13.8	7.111	-2.189	3.731;	
120	103.6	0.07	39.2	9.289	10.56	-2.815	5.129;	
140	102.3	0.07	50.75	6.251	15.68	-3.38	6.637;	
160	100.5	0.07	64.97	4.207	23.28	-3.88	8.297;	
180	98.31	0.07	82.77	2.831	34.59	-4.323	10.2;	
200	95.53	0.07	105.1	1.905	51.38	-4.718	12.46;	
216	92.85	0.07	127.1	1.388	70.53	-5.002	14.62; merging,	
220	91.98	0.07	133.6	1.282	76.34	-5.08	15.33;	
240	86.07	0.07	183.0	0.863	113.4	-5.5	19.99;	
260	76.93	0.07	264.2	0.58	168.5	-5.936	26.89;	
280	63.03	0.07	389.7	0.391	250.4	-6.379	37.04;	
288	55.65	0.07	456.2	0.333	293.4	-6.557	42.34; axial vel	
0.0215	max dilution reached							
300	42.03	0.07	578.4	0.263	372.1	-6.826	51.98;	
316	17.85	0.07	794.4	0.191	510.8	-7.186	68.87; axial vel	
0.117	(trap1)surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						172.98	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr) (m/s)(m ^{0.67} /s ²)	
0.1906	512.5	174.1	25.0	0.0155	0.0	21.2	0.07 3.00E-4	
0.19071	512.0	175.5	30.0	0.0353	0.0	21.2	0.07 3.00E-4	
0.19073	511.7	176.9	35.0	0.0551	0.0	21.2	0.07 3.00E-4	

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0.19071	511.5	178.3	40.0	0.075	0.0	21.2	0.07	3.00E-4
0.19067	511.4	179.7	45.0	0.0948	0.0	21.2	0.07	3.00E-4
0.19062	511.3	181.1	50.0	0.115	0.0	21.2	0.07	3.00E-4
0.19056	511.3	182.4	55.0	0.135	0.0	21.2	0.07	3.00E-4
0.1905	511.2	183.8	60.0	0.154	0.0	21.2	0.07	3.00E-4
0.19043	511.2	185.1	65.0	0.174	0.0	21.2	0.07	3.00E-4
0.19036	511.1	186.5	70.0	0.194	0.0	21.2	0.07	3.00E-4
0.19029	511.1	187.8	75.0	0.214	0.0	21.2	0.07	3.00E-4
0.19021	511.1	189.1	80.0	0.234	0.0	21.2	0.07	3.00E-4
0.19012	511.1	190.4	85.0	0.254	0.0	21.2	0.07	3.00E-4
0.19003	511.1	191.7	90.0	0.273	0.0	21.2	0.07	3.00E-4
0.18992	511.2	193.0	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.1898	511.3	194.3	100.0	0.313	0.0	21.2	0.07	3.00E-4
0.18967	511.4	195.5	105.0	0.333	0.0	21.2	0.07	3.00E-4
0.18952	511.6	196.8	110.0	0.353	0.0	21.2	0.07	3.00E-4
0.18935	511.8	198.1	115.0	0.373	0.0	21.2	0.07	3.00E-4
0.18917	512.1	199.3	120.0	0.392	0.0	21.2	0.07	3.00E-4
0.18896	512.5	200.6	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.18874	512.9	201.8	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.18849	513.3	203.0	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.18823	513.8	204.2	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.18794	514.4	205.4	145.0	0.492	0.0	21.2	0.07	3.00E-4
0.18764	515.0	206.6	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.18732	515.7	207.8	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.18699	516.4	209.0	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.18664	517.1	210.2	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.18627	518.0	211.4	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.18589	518.8	212.6	175.0	0.611	0.0	21.2	0.07	3.00E-4
0.1855	519.7	213.7	180.0	0.631	0.0	21.2	0.07	3.00E-4
0.18509	520.6	214.9	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.18467	521.6	216.0	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.18424	522.6	217.2	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.1838	523.7	218.3	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.18335	524.8	219.4	205.0	0.73	0.0	21.2	0.07	3.00E-4
0.18289	525.9	220.6	210.0	0.75	0.0	21.2	0.07	3.00E-4
0.18242	527.0	221.7	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.18194	528.2	222.8	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.18145	529.4	223.9	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.18096	530.7	225.0	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.18045	531.9	226.1	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.17993	533.3	227.2	240.0	0.869	0.0	21.2	0.07	3.00E-4
0.17942	534.6	228.3	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.17891	535.9	229.4	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.17839	537.3	230.5	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.17786	538.6	231.5	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.17733	540.0	232.6	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.17681	541.4	233.7	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.17628	542.9	234.7	275.0	1.008	0.0	21.2	0.07	3.00E-4
0.17575	544.3	235.8	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.17521	545.7	236.8	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.17467	547.2	237.9	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.17413	548.7	238.9	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.17359	550.2	239.9	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.17305	551.7	241.0	305.0	1.127	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 36; ambient file C:\Plumes\kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
m/s	Far-dir	Disprsn	deg	psu	C	kg/kg	s-1
m/s	deg	m/s	deg				
0.0	0.07	0.67/s2	90.0	35.39	26.04	0.0	0.000312

Kailua_min8.txt

0.07	90.0	0.0003						
0.07	2.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	4.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	6.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	8.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	10.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.39	26.03	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.39	26.03	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.38	26.02	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.37	25.96	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.37	25.91	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo Temp								
(MGD)		(C)						
28.94		28.04						
Froude number:	11.64							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.287	67.3	1.475	-0.258	0.373	
40	105.4	0.07	10.69	45.29	2.182	-0.619	0.908	
60	105.4	0.07	15.6	30.48	3.232	-1.113	1.669	
80	105.3	0.07	22.58	20.51	4.792	-1.765	2.728	
100	104.9	0.07	32.13	13.8	7.111	-2.587	4.167	
120	104.2	0.07	44.4	9.289	10.56	-3.564	6.06	
140	102.8	0.07	59.22	6.251	15.68	-4.568	8.278	
160	100.8	0.07	77.04	4.207	23.28	-5.483	10.68	
180	98.16	0.07	98.91	2.831	34.59	-6.295	13.3	
200	94.74	0.07	126.2	1.905	51.38	-7.016	16.28	
204	93.96	0.07	132.4	1.76	55.62	-7.15	16.93	
220	89.02	0.07	166.0	1.282	76.34	-7.836	20.81	
240	79.6	0.07	235.4	0.863	113.4	-8.719	27.44	
260	65.09	0.07	345.9	0.58	168.5	-9.611	36.8	
264	61.38	0.07	374.3	0.536	182.4	-9.791	39.1	
0.0189	max dilution reached							
280	42.96	0.07	514.0	0.39	250.4	-10.51	50.22	
298	13.45	0.07	736.1	0.273	357.7	-11.32	67.37	
0.17	(trap1) surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						171.50	
m								

Kailua_min8.txt								
conc (ppm)	dilutn	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)	(m0.67/s2)
0.27229	358.8	172.7	25.0	0.0166	0.0	21.2	0.07	3.00E-4
0.27244	358.5	174.1	30.0	0.0364	0.0	21.2	0.07	3.00E-4
0.27246	358.3	175.5	35.0	0.0563	0.0	21.2	0.07	3.00E-4
0.27243	358.2	176.9	40.0	0.0761	0.0	21.2	0.07	3.00E-4
0.27237	358.1	178.3	45.0	0.0959	0.0	21.2	0.07	3.00E-4
0.2723	358.0	179.6	50.0	0.116	0.0	21.2	0.07	3.00E-4
0.27221	358.0	181.0	55.0	0.136	0.0	21.2	0.07	3.00E-4
0.27212	357.9	182.4	60.0	0.155	0.0	21.2	0.07	3.00E-4
0.27203	357.9	183.7	65.0	0.175	0.0	21.2	0.07	3.00E-4
0.27193	357.9	185.0	70.0	0.195	0.0	21.2	0.07	3.00E-4
0.27182	357.9	186.3	75.0	0.215	0.0	21.2	0.07	3.00E-4
0.27171	357.8	187.6	80.0	0.235	0.0	21.2	0.07	3.00E-4
0.27158	357.9	189.0	85.0	0.255	0.0	21.2	0.07	3.00E-4
0.27145	357.9	190.2	90.0	0.275	0.0	21.2	0.07	3.00E-4
0.27129	357.9	191.5	95.0	0.294	0.0	21.2	0.07	3.00E-4
0.27112	358.0	192.8	100.0	0.314	0.0	21.2	0.07	3.00E-4
0.27093	358.1	194.1	105.0	0.334	0.0	21.2	0.07	3.00E-4
0.27071	358.2	195.3	110.0	0.354	0.0	21.2	0.07	3.00E-4
0.27047	358.4	196.6	115.0	0.374	0.0	21.2	0.07	3.00E-4
0.2702	358.6	197.8	120.0	0.394	0.0	21.2	0.07	3.00E-4
0.2699	358.9	199.1	125.0	0.413	0.0	21.2	0.07	3.00E-4
0.26957	359.1	200.3	130.0	0.433	0.0	21.2	0.07	3.00E-4
0.26922	359.5	201.5	135.0	0.453	0.0	21.2	0.07	3.00E-4
0.26881	359.9	202.7	140.0	0.473	0.0	21.2	0.07	3.00E-4
0.26841	360.3	203.9	145.0	0.493	0.0	21.2	0.07	3.00E-4
0.26797	360.7	205.1	150.0	0.513	0.0	21.2	0.07	3.00E-4
0.26751	361.2	206.3	155.0	0.532	0.0	21.2	0.07	3.00E-4
0.26703	361.7	207.5	160.0	0.552	0.0	21.2	0.07	3.00E-4
0.26652	362.2	208.7	165.0	0.572	0.0	21.2	0.07	3.00E-4
0.26599	362.8	209.8	170.0	0.592	0.0	21.2	0.07	3.00E-4
0.26544	363.4	211.0	175.0	0.612	0.0	21.2	0.07	3.00E-4
0.26487	364.0	212.2	180.0	0.632	0.0	21.2	0.07	3.00E-4
0.26428	364.7	213.3	185.0	0.652	0.0	21.2	0.07	3.00E-4
0.26368	365.4	214.5	190.0	0.671	0.0	21.2	0.07	3.00E-4
0.26306	366.1	215.6	195.0	0.691	0.0	21.2	0.07	3.00E-4
0.26242	366.9	216.7	200.0	0.711	0.0	21.2	0.07	3.00E-4
0.26176	367.6	217.9	205.0	0.731	0.0	21.2	0.07	3.00E-4
0.2611	368.4	219.0	210.0	0.751	0.0	21.2	0.07	3.00E-4
0.26043	369.2	220.1	215.0	0.771	0.0	21.2	0.07	3.00E-4
0.25973	370.1	221.2	220.0	0.79	0.0	21.2	0.07	3.00E-4
0.25903	370.9	222.3	225.0	0.81	0.0	21.2	0.07	3.00E-4
0.25832	371.8	223.4	230.0	0.83	0.0	21.2	0.07	3.00E-4
0.25757	372.7	224.5	235.0	0.85	0.0	21.2	0.07	3.00E-4
0.25684	373.7	225.6	240.0	0.87	0.0	21.2	0.07	3.00E-4
0.25611	374.6	226.7	245.0	0.89	0.0	21.2	0.07	3.00E-4
0.25537	375.5	227.8	250.0	0.909	0.0	21.2	0.07	3.00E-4
0.25462	376.5	228.8	255.0	0.929	0.0	21.2	0.07	3.00E-4
0.25386	377.5	229.9	260.0	0.949	0.0	21.2	0.07	3.00E-4
0.2531	378.5	231.0	265.0	0.969	0.0	21.2	0.07	3.00E-4
0.25235	379.4	232.0	270.0	0.989	0.0	21.2	0.07	3.00E-4
0.25159	380.4	233.1	275.0	1.009	0.0	21.2	0.07	3.00E-4
0.25082	381.5	234.1	280.0	1.028	0.0	21.2	0.07	3.00E-4
0.25005	382.5	235.2	285.0	1.048	0.0	21.2	0.07	3.00E-4
0.24927	383.5	236.2	290.0	1.068	0.0	21.2	0.07	3.00E-4
0.2485	384.6	237.2	295.0	1.088	0.0	21.2	0.07	3.00E-4
0.24772	385.6	238.3	300.0	1.108	0.0	21.2	0.07	3.00E-4
0.24694	386.7	239.3	305.0	1.128	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 37; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Kailua_min8.txt								
Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
m/s	m	Far-dir	Disprsn	psu	c	kg/kg		s-1
		m/s	m0.67/s2					
	0.0	0.07	90.0	35.14	24.64	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.14	24.63	0.0	0.000312	
0.07	2.0	0.07	90.0	35.14	24.64	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.14	24.63	0.0	0.000312	
0.07	4.0	0.07	90.0	35.14	24.64	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.14	24.63	0.0	0.000312	
0.07	6.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.14	24.63	0.0	0.000312	
0.07	8.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.14	24.63	0.0	0.000312	
0.07	10.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.14	24.63	0.0	0.000312	
0.07	12.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.14	24.64	0.0	0.000312	
0.07	14.0	0.07	90.0	35.14	24.64	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.14	24.63	0.0	0.000312	
0.07	16.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.14	24.63	0.0	0.000312	
0.07	18.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.14	24.63	0.0	0.000312	
0.07	20.0	0.07	90.0	35.14	24.64	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.14	24.64	0.0	0.000312	
0.07	22.0	0.07	90.0	35.14	24.64	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.16	24.61	0.0	0.000312	
0.07	24.0	0.07	90.0	35.16	24.61	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.19	24.51	0.0	0.000312	
0.07	26.0	0.07	90.0	35.19	24.51	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.2	24.48	0.0	0.000312	
0.07	28.0	0.07	90.0	35.2	24.48	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.2	24.35	0.0	0.000312	
0.07	30.0	0.07	90.0	35.21	24.24	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.21	24.24	0.0	0.000312	
0.07	32.0	0.07	90.0	35.21	24.19	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.21	24.19	0.0	0.000312	
0.07	33.0	0.07	90.0	35.21	24.19	0.0	0.000312	
0.07	90.0	0.07	0.0003					
Ttl-flo	Temp							
(MGD)	(C)							
29.34	28.04							
Froude number:	11.69							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.287	67.3	1.475	-0.258	0.373;	
40	105.4	0.07	10.69	45.29	2.182	-0.62	0.909;	
60	105.4	0.07	15.61	30.48	3.231	-1.115	1.671;	
80	105.3	0.07	22.59	20.51	4.791	-1.769	2.732;	
100	104.9	0.07	32.16	13.8	7.108	-2.596	4.176;	
120	104.2	0.07	44.47	9.289	10.55	-3.58	6.075;	
140	102.8	0.07	59.33	6.251	15.67	-4.594	8.306;	
160	100.8	0.07	77.22	4.207	23.27	-5.52	10.72;	
180	98.11	0.07	99.27	2.831	34.57	-6.343	13.35;	
200	94.69	0.07	127.0	1.905	51.36	-7.075	16.35;	
204	93.91	0.07	133.4	1.76	55.6	-7.212	17.01;	merging,
220	88.94	0.07	169.7	1.282	76.31	-7.923	20.99;	
240	79.58	0.07	248.6	0.863	113.4	-8.861	27.96;	
260	65.82	0.07	402.6	0.58	168.5	-9.868	38.43;	axial vel
0.0162	62.36	0.07	444.5	0.536	182.4	-10.09	41.2;	max dilution

Kailua_min8.txt

reached

280 45.05 0.07 646.4 0.39 250.4 -11.02 55.43;
295 22.5 0.07 900.7 0.29 336.9 -11.95 74.37; axial vel

0.0965 (trap1) surface,
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 175.68
m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s) (m ^{0.67} /s ²)
0.28873	338.3	176.3	25.0	0.0081	0.0	21.2	0.07 3.00E-4
0.28903	337.8	177.7	30.0	0.0279	0.0	21.2	0.07 3.00E-4
0.28909	337.6	179.1	35.0	0.0478	0.0	21.2	0.07 3.00E-4
0.28907	337.5	180.5	40.0	0.0676	0.0	21.2	0.07 3.00E-4
0.28902	337.4	181.9	45.0	0.0875	0.0	21.2	0.07 3.00E-4
0.28895	337.3	183.3	50.0	0.107	0.0	21.2	0.07 3.00E-4
0.28886	337.2	184.7	55.0	0.127	0.0	21.2	0.07 3.00E-4
0.28877	337.2	186.0	60.0	0.147	0.0	21.2	0.07 3.00E-4
0.28867	337.2	187.4	65.0	0.167	0.0	21.2	0.07 3.00E-4
0.28857	337.1	188.7	70.0	0.187	0.0	21.2	0.07 3.00E-4
0.28846	337.1	190.1	75.0	0.207	0.0	21.2	0.07 3.00E-4
0.28835	337.1	191.4	80.0	0.226	0.0	21.2	0.07 3.00E-4
0.28822	337.1	192.7	85.0	0.246	0.0	21.2	0.07 3.00E-4
0.28808	337.1	194.0	90.0	0.266	0.0	21.2	0.07 3.00E-4
0.28793	337.2	195.3	95.0	0.286	0.0	21.2	0.07 3.00E-4
0.28776	337.2	196.6	100.0	0.306	0.0	21.2	0.07 3.00E-4
0.28757	337.3	197.9	105.0	0.326	0.0	21.2	0.07 3.00E-4
0.28736	337.4	199.2	110.0	0.345	0.0	21.2	0.07 3.00E-4
0.28713	337.5	200.4	115.0	0.365	0.0	21.2	0.07 3.00E-4
0.28686	337.7	201.7	120.0	0.385	0.0	21.2	0.07 3.00E-4
0.28657	337.9	203.0	125.0	0.405	0.0	21.2	0.07 3.00E-4
0.28625	338.1	204.2	130.0	0.425	0.0	21.2	0.07 3.00E-4
0.2859	338.4	205.4	135.0	0.445	0.0	21.2	0.07 3.00E-4
0.28552	338.7	206.7	140.0	0.464	0.0	21.2	0.07 3.00E-4
0.2851	339.1	207.9	145.0	0.484	0.0	21.2	0.07 3.00E-4
0.28466	339.5	209.1	150.0	0.504	0.0	21.2	0.07 3.00E-4
0.2842	339.9	210.3	155.0	0.524	0.0	21.2	0.07 3.00E-4
0.28372	340.3	211.5	160.0	0.544	0.0	21.2	0.07 3.00E-4
0.28321	340.8	212.7	165.0	0.564	0.0	21.2	0.07 3.00E-4
0.28267	341.3	213.9	170.0	0.583	0.0	21.2	0.07 3.00E-4
0.28212	341.8	215.1	175.0	0.603	0.0	21.2	0.07 3.00E-4
0.28154	342.4	216.2	180.0	0.623	0.0	21.2	0.07 3.00E-4
0.28094	343.0	217.4	185.0	0.643	0.0	21.2	0.07 3.00E-4
0.28032	343.6	218.6	190.0	0.663	0.0	21.2	0.07 3.00E-4
0.27969	344.2	219.7	195.0	0.683	0.0	21.2	0.07 3.00E-4
0.27904	344.9	220.9	200.0	0.703	0.0	21.2	0.07 3.00E-4
0.27837	345.6	222.0	205.0	0.722	0.0	21.2	0.07 3.00E-4
0.27769	346.3	223.1	210.0	0.742	0.0	21.2	0.07 3.00E-4
0.277	347.0	224.3	215.0	0.762	0.0	21.2	0.07 3.00E-4
0.27629	347.8	225.4	220.0	0.782	0.0	21.2	0.07 3.00E-4
0.27557	348.6	226.5	225.0	0.802	0.0	21.2	0.07 3.00E-4
0.27483	349.4	227.6	230.0	0.822	0.0	21.2	0.07 3.00E-4
0.27408	350.2	228.7	235.0	0.841	0.0	21.2	0.07 3.00E-4
0.27333	351.0	229.8	240.0	0.861	0.0	21.2	0.07 3.00E-4
0.27254	351.9	230.9	245.0	0.881	0.0	21.2	0.07 3.00E-4
0.27178	352.8	232.0	250.0	0.901	0.0	21.2	0.07 3.00E-4
0.271	353.6	233.1	255.0	0.921	0.0	21.2	0.07 3.00E-4
0.27022	354.5	234.2	260.0	0.941	0.0	21.2	0.07 3.00E-4
0.26943	355.4	235.3	265.0	0.96	0.0	21.2	0.07 3.00E-4
0.26863	356.3	236.4	270.0	0.98	0.0	21.2	0.07 3.00E-4
0.26785	357.2	237.4	275.0	1.0	0.0	21.2	0.07 3.00E-4
0.26705	358.2	238.5	280.0	1.02	0.0	21.2	0.07 3.00E-4
0.26625	359.1	239.5	285.0	1.04	0.0	21.2	0.07 3.00E-4
0.26545	360.1	240.6	290.0	1.06	0.0	21.2	0.07 3.00E-4
0.26464	361.0	241.7	295.0	1.08	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.26382	362.0	242.7	300.0	1.099	0.0	21.2	0.07	3.00E-4
0.26301	363.0	243.7	305.0	1.119	0.0	21.2	0.07	3.00E-4
count: 57								
/ Windows UM3.								
Case 38; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:								
Far-spd m/s	Depth m	Amb-cur m/s	Amb-dir deg	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1	
0.07	0.0	0.07	90.0	35.14	24.64	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.14	24.63	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.14	24.64	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.14	24.63	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.14	24.63	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.14	24.63	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.14	24.63	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.14	24.64	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.14	24.63	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.14	24.63	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.14	24.64	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.14	24.64	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.16	24.61	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.19	24.51	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.2	24.48	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.2	24.35	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.21	24.24	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.21	24.19	0.0	0.000312	
	90.0	0.0003						
Ttl-flo (MGD)	Temp (C)							
22.49	28.04							
Froude number: 8.961								
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.272	67.3	1.475	-0.252	0.365	
40	105.4	0.07	10.63	45.29	2.182	-0.598	0.884	
60	105.4	0.07	15.43	30.48	3.231	-1.062	1.613	
80	105.2	0.07	22.11	20.51	4.791	-1.657	2.613	
100	104.7	0.07	30.89	13.8	7.108	-2.38	3.946	
120	103.8	0.07	41.63	9.289	10.55	-3.169	5.587	
140	102.5	0.07	54.48	6.251	15.67	-3.905	7.377	
160	100.6	0.07	70.15	4.207	23.27	-4.561	9.318	
180	98.12	0.07	89.71	2.831	34.57	-5.142	11.5	
200	95.07	0.07	114.5	1.905	51.36	-5.66	14.04	

Kailua_min8.txt							
210	93.28	0.07	129.3	1.563	62.61	-5.898	15.5; merging,
220	90.75	0.07	148.8	1.282	76.31	-6.183	17.55;
240	83.53	0.07	212.3	0.863	113.4	-6.794	23.2;
260	72.85	0.07	333.0	0.58	168.5	-7.442	31.69; axial vel
0.0114							
277	60.28	0.07	511.6	0.414	235.9	-8.056	42.95; max dilution
reached							
280	57.58	0.07	549.9	0.39	250.4	-8.174	45.52;
300	34.45	0.07	869.9	0.263	372.0	-9.017	68.57;
305	26.94	0.07	968.9	0.238	410.7	-9.241	76.27; axial vel
0.076 (trap1) surface,							
Const Eddy Diffusivity.							
Farfield dispersion based on wastefield width of							177.41
m							

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.23678	412.5	177.9	25.0	0.00628	0.0	21.2	0.07 3.00E-4
0.23705	411.8	179.3	30.0	0.0261	0.0	21.2	0.07 3.00E-4
0.23711	411.5	180.7	35.0	0.046	0.0	21.2	0.07 3.00E-4
0.2371	411.4	182.1	40.0	0.0658	0.0	21.2	0.07 3.00E-4
0.23706	411.3	183.5	45.0	0.0856	0.0	21.2	0.07 3.00E-4
0.237	411.2	184.9	50.0	0.105	0.0	21.2	0.07 3.00E-4
0.23694	411.1	186.3	55.0	0.125	0.0	21.2	0.07 3.00E-4
0.23686	411.1	187.7	60.0	0.145	0.0	21.2	0.07 3.00E-4
0.23678	411.0	189.0	65.0	0.165	0.0	21.2	0.07 3.00E-4
0.2367	411.0	190.4	70.0	0.185	0.0	21.2	0.07 3.00E-4
0.23661	411.0	191.7	75.0	0.205	0.0	21.2	0.07 3.00E-4
0.23652	410.9	193.1	80.0	0.225	0.0	21.2	0.07 3.00E-4
0.23641	410.9	194.4	85.0	0.244	0.0	21.2	0.07 3.00E-4
0.2363	411.0	195.7	90.0	0.264	0.0	21.2	0.07 3.00E-4
0.23618	411.0	197.0	95.0	0.284	0.0	21.2	0.07 3.00E-4
0.23605	411.0	198.3	100.0	0.304	0.0	21.2	0.07 3.00E-4
0.2359	411.1	199.6	105.0	0.324	0.0	21.2	0.07 3.00E-4
0.23573	411.2	200.9	110.0	0.344	0.0	21.2	0.07 3.00E-4
0.23554	411.4	202.2	115.0	0.363	0.0	21.2	0.07 3.00E-4
0.23533	411.6	203.4	120.0	0.383	0.0	21.2	0.07 3.00E-4
0.23509	411.8	204.7	125.0	0.403	0.0	21.2	0.07 3.00E-4
0.23484	412.1	205.9	130.0	0.423	0.0	21.2	0.07 3.00E-4
0.23456	412.4	207.2	135.0	0.443	0.0	21.2	0.07 3.00E-4
0.23425	412.8	208.4	140.0	0.463	0.0	21.2	0.07 3.00E-4
0.23391	413.2	209.6	145.0	0.482	0.0	21.2	0.07 3.00E-4
0.23356	413.7	210.8	150.0	0.502	0.0	21.2	0.07 3.00E-4
0.23319	414.2	212.1	155.0	0.522	0.0	21.2	0.07 3.00E-4
0.2328	414.7	213.3	160.0	0.542	0.0	21.2	0.07 3.00E-4
0.23239	415.2	214.5	165.0	0.562	0.0	21.2	0.07 3.00E-4
0.23196	415.8	215.7	170.0	0.582	0.0	21.2	0.07 3.00E-4
0.23151	416.5	216.8	175.0	0.602	0.0	21.2	0.07 3.00E-4
0.23105	417.2	218.0	180.0	0.621	0.0	21.2	0.07 3.00E-4
0.23056	417.9	219.2	185.0	0.641	0.0	21.2	0.07 3.00E-4
0.23006	418.6	220.4	190.0	0.661	0.0	21.2	0.07 3.00E-4
0.22956	419.4	221.5	195.0	0.681	0.0	21.2	0.07 3.00E-4
0.22903	420.2	222.7	200.0	0.701	0.0	21.2	0.07 3.00E-4
0.22849	421.0	223.8	205.0	0.721	0.0	21.2	0.07 3.00E-4
0.22793	421.9	225.0	210.0	0.74	0.0	21.2	0.07 3.00E-4
0.22736	422.7	226.1	215.0	0.76	0.0	21.2	0.07 3.00E-4
0.2268	423.6	227.2	220.0	0.78	0.0	21.2	0.07 3.00E-4
0.22621	424.6	228.4	225.0	0.8	0.0	21.2	0.07 3.00E-4
0.22561	425.5	229.5	230.0	0.82	0.0	21.2	0.07 3.00E-4
0.22501	426.5	230.6	235.0	0.84	0.0	21.2	0.07 3.00E-4
0.22439	427.5	231.7	240.0	0.859	0.0	21.2	0.07 3.00E-4
0.22376	428.6	232.8	245.0	0.879	0.0	21.2	0.07 3.00E-4
0.22313	429.6	233.9	250.0	0.899	0.0	21.2	0.07 3.00E-4
0.2225	430.6	235.0	255.0	0.919	0.0	21.2	0.07 3.00E-4
0.22187	431.7	236.1	260.0	0.939	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt								
0.22122	432.8	237.2	265.0	0.959	0.0	21.2	0.07	3.00E-4
0.22058	433.9	238.2	270.0	0.979	0.0	21.2	0.07	3.00E-4
0.21992	435.0	239.3	275.0	0.998	0.0	21.2	0.07	3.00E-4
0.21929	436.1	240.4	280.0	1.018	0.0	21.2	0.07	3.00E-4
0.21864	437.2	241.4	285.0	1.038	0.0	21.2	0.07	3.00E-4
0.21798	438.4	242.5	290.0	1.058	0.0	21.2	0.07	3.00E-4
0.21732	439.6	243.6	295.0	1.078	0.0	21.2	0.07	3.00E-4
0.21666	440.7	244.6	300.0	1.098	0.0	21.2	0.07	3.00E-4
0.216	441.9	245.7	305.0	1.117	0.0	21.2	0.07	3.00E-4

count: 57

/ windows UM3.

Case 39; ambient file C:\Plumes\kailua_min8.001.db; diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s 0.67/s ²	Disprsn deg	Amb-sal	Amb-tem	Amb-pol	Solar rad s-1
					psu	c	kg/kg	
0.07	0.0	90.0	0.07 0.0003	90.0	35.14	24.64	0.0	0.000312
0.07	2.0	90.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	4.0	90.0	0.07 0.0003	90.0	35.14	24.64	0.0	0.000312
0.07	6.0	90.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	8.0	90.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	10.0	90.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	12.0	90.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	14.0	90.0	0.07 0.0003	90.0	35.14	24.64	0.0	0.000312
0.07	16.0	90.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	18.0	90.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	20.0	90.0	0.07 0.0003	90.0	35.14	24.64	0.0	0.000312
0.07	22.0	90.0	0.07 0.0003	90.0	35.14	24.64	0.0	0.000312
0.07	24.0	90.0	0.07 0.0003	90.0	35.16	24.61	0.0	0.000312
0.07	26.0	90.0	0.07 0.0003	90.0	35.19	24.51	0.0	0.000312
0.07	28.0	90.0	0.07 0.0003	90.0	35.2	24.48	0.0	0.000312
0.07	30.0	90.0	0.07 0.0003	90.0	35.2	24.35	0.0	0.000312
0.07	32.0	90.0	0.07 0.0003	90.0	35.21	24.24	0.0	0.000312
0.07	33.0	90.0	0.07 0.0003	90.0	35.21	24.19	0.0	0.000312
0.07	35.0	90.0	0.07 0.0003	90.0	35.21	24.15	0.0	0.000312
Ttl-flo Temp								
(MGD)		(C)						
26.95		28.04						

Froude number: 10.74

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.282	67.3	1.475	-0.256	0.371
40	105.4	0.07	10.67	45.29	2.182	-0.614	0.902
60	105.4	0.07	15.56	30.48	3.231	-1.099	1.654

Kailua_min8.txt

80	105.2	0.07	22.45	20.51	4.791	-1.735	2.697;
100	104.9	0.07	31.8	13.8	7.108	-2.53	4.106;
120	104.1	0.07	43.61	9.289	10.55	-3.456	5.934;
140	102.7	0.07	57.8	6.251	15.67	-4.375	8.017;
160	100.7	0.07	74.93	4.207	23.27	-5.204	10.26;
180	98.09	0.07	96.13	2.831	34.57	-5.941	12.74;
200	94.79	0.07	122.9	1.905	51.36	-6.596	15.58;
206	93.65	0.07	132.3	1.692	57.84	-6.779	16.53; merging,
220	89.57	0.07	162.7	1.282	76.31	-7.32	19.81;
240	80.94	0.07	236.2	0.863	113.4	-8.138	26.32;
260	68.26	0.07	379.6	0.58	168.5	-9.012	36.1; axial vel
0.0144							
268	61.68	0.07	463.5	0.495	197.4	-9.395	41.54; max dilution
reached							
280	49.4	0.07	614.8	0.39	250.4	-10.01	52.08;
298	24.04	0.07	918.1	0.273	357.6	-11.01	74.54; axial vel
0.0884	(trap1) surface,						
Const Eddy Diffusivity.							
m							

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.27206	359.0	176.7	25.0	0.00807	0.0	21.2	0.07 3.00E-4
0.27234	358.5	178.1	30.0	0.0279	0.0	21.2	0.07 3.00E-4
0.2724	358.2	179.6	35.0	0.0478	0.0	21.2	0.07 3.00E-4
0.27238	358.1	181.0	40.0	0.0676	0.0	21.2	0.07 3.00E-4
0.27234	358.0	182.4	45.0	0.0874	0.0	21.2	0.07 3.00E-4
0.27227	357.9	183.8	50.0	0.107	0.0	21.2	0.07 3.00E-4
0.27219	357.9	185.1	55.0	0.127	0.0	21.2	0.07 3.00E-4
0.27221	357.8	186.5	60.0	0.147	0.0	21.2	0.07 3.00E-4
0.27201	357.8	187.9	65.0	0.167	0.0	21.2	0.07 3.00E-4
0.27192	357.8	189.2	70.0	0.187	0.0	21.2	0.07 3.00E-4
0.27181	357.8	190.5	75.0	0.206	0.0	21.2	0.07 3.00E-4
0.2717	357.7	191.9	80.0	0.226	0.0	21.2	0.07 3.00E-4
0.27159	357.7	193.2	85.0	0.246	0.0	21.2	0.07 3.00E-4
0.27146	357.8	194.5	90.0	0.266	0.0	21.2	0.07 3.00E-4
0.27131	357.8	195.8	95.0	0.286	0.0	21.2	0.07 3.00E-4
0.27116	357.9	197.1	100.0	0.306	0.0	21.2	0.07 3.00E-4
0.27098	357.9	198.4	105.0	0.326	0.0	21.2	0.07 3.00E-4
0.27078	358.0	199.6	110.0	0.345	0.0	21.2	0.07 3.00E-4
0.27056	358.2	200.9	115.0	0.365	0.0	21.2	0.07 3.00E-4
0.27031	358.4	202.2	120.0	0.385	0.0	21.2	0.07 3.00E-4
0.27004	358.6	203.4	125.0	0.405	0.0	21.2	0.07 3.00E-4
0.26974	358.8	204.7	130.0	0.425	0.0	21.2	0.07 3.00E-4
0.26941	359.1	205.9	135.0	0.445	0.0	21.2	0.07 3.00E-4
0.26905	359.4	207.1	140.0	0.464	0.0	21.2	0.07 3.00E-4
0.26865	359.8	208.4	145.0	0.484	0.0	21.2	0.07 3.00E-4
0.26825	360.2	209.6	150.0	0.504	0.0	21.2	0.07 3.00E-4
0.26781	360.6	210.8	155.0	0.524	0.0	21.2	0.07 3.00E-4
0.26736	361.1	212.0	160.0	0.544	0.0	21.2	0.07 3.00E-4
0.26688	361.6	213.2	165.0	0.564	0.0	21.2	0.07 3.00E-4
0.26638	362.1	214.4	170.0	0.583	0.0	21.2	0.07 3.00E-4
0.26585	362.7	215.5	175.0	0.603	0.0	21.2	0.07 3.00E-4
0.26531	363.3	216.7	180.0	0.623	0.0	21.2	0.07 3.00E-4
0.26475	363.9	217.9	185.0	0.643	0.0	21.2	0.07 3.00E-4
0.26417	364.6	219.0	190.0	0.663	0.0	21.2	0.07 3.00E-4
0.26358	365.3	220.2	195.0	0.683	0.0	21.2	0.07 3.00E-4
0.26297	366.0	221.4	200.0	0.703	0.0	21.2	0.07 3.00E-4
0.26234	366.7	222.5	205.0	0.722	0.0	21.2	0.07 3.00E-4
0.26169	367.5	223.6	210.0	0.742	0.0	21.2	0.07 3.00E-4
0.26105	368.2	224.8	215.0	0.762	0.0	21.2	0.07 3.00E-4
0.26038	369.0	225.9	220.0	0.782	0.0	21.2	0.07 3.00E-4
0.2597	369.8	227.0	225.0	0.802	0.0	21.2	0.07 3.00E-4
0.25901	370.7	228.1	230.0	0.822	0.0	21.2	0.07 3.00E-4

					Kailua_min8.txt			
0.25831	371.6	229.2	235.0	0.841	0.0	21.2	0.07	3.00E-4
0.2576	372.4	230.3	240.0	0.861	0.0	21.2	0.07	3.00E-4
0.25686	373.4	231.4	245.0	0.881	0.0	21.2	0.07	3.00E-4
0.25614	374.3	232.5	250.0	0.901	0.0	21.2	0.07	3.00E-4
0.25541	375.2	233.6	255.0	0.921	0.0	21.2	0.07	3.00E-4
0.25467	376.1	234.7	260.0	0.941	0.0	21.2	0.07	3.00E-4
0.25393	377.1	235.8	265.0	0.96	0.0	21.2	0.07	3.00E-4
0.25318	378.1	236.9	270.0	0.98	0.0	21.2	0.07	3.00E-4
0.25245	379.0	237.9	275.0	1.0	0.0	21.2	0.07	3.00E-4
0.2517	380.0	239.0	280.0	1.02	0.0	21.2	0.07	3.00E-4
0.25094	381.0	240.1	285.0	1.04	0.0	21.2	0.07	3.00E-4
0.25018	382.0	241.1	290.0	1.06	0.0	21.2	0.07	3.00E-4
0.24942	383.0	242.2	295.0	1.08	0.0	21.2	0.07	3.00E-4
0.24866	384.1	243.2	300.0	1.099	0.0	21.2	0.07	3.00E-4
0.24789	385.1	244.3	305.0	1.119	0.0	21.2	0.07	3.00E-4

count: 57

/ windows UM3.

Case 40; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir deg	Disprsn m/s ^{0.67} /s ²	deg	psu	C	kg/kg	s-1	
0.07	0.0	0.07	90.0	35.18	24.42	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.18	24.43	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.18	24.42	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.17	24.38	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.17	24.37	0.0	0.000312	
	90.0	0.0003						
	Tt1-flo (MGD)	Temp (C)						
	19.42	28.04						
Froude number:		7.751						

Kailua_min8.txt

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.261	67.3	1.475	-0.247	0.359;
40	105.4	0.07	10.59	45.29	2.182	-0.584	0.868;
60	105.3	0.07	15.31	30.48	3.231	-1.029	1.577;
80	105.1	0.07	21.76	20.51	4.791	-1.588	2.539;
100	104.6	0.07	30.0	13.8	7.109	-2.249	3.801;
120	103.7	0.07	39.91	9.289	10.55	-2.923	5.269;
140	102.3	0.07	51.79	6.251	15.67	-3.534	6.852;
160	100.5	0.07	66.38	4.207	23.27	-4.075	8.585;
180	98.21	0.07	84.59	2.831	34.57	-4.554	10.56;
200	95.32	0.07	107.5	1.905	51.37	-4.981	12.89;
215	92.73	0.07	128.5	1.415	69.12	-5.27	14.95; merging,
220	91.57	0.07	137.2	1.282	76.32	-5.379	15.88;
240	85.25	0.07	189.2	0.863	113.4	-5.844	20.75;
260	75.48	0.07	273.6	0.58	168.5	-6.325	27.93;
280	60.58	0.07	403.0	0.39	250.4	-6.812	38.43; axial vel
0.018							
285	55.79	0.07	444.6	0.354	276.4	-6.935	41.74; max dilution
reached							
300	38.08	0.07	597.7	0.263	372.0	-7.303	53.8;
313	17.69	0.07	773.3	0.203	481.2	-7.622	67.47; axial vel
0.118 (trap1)surface,							
Const Eddy Diffusivity.							
m							

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	concentration (ppm)	decay rate (ly/hr)	velocity (m/s) (m ^{0.67} /s ²)
0.20229	482.7	173.7	25.0	0.0171	0.0	21.2	0.07 3.00E-4
0.2024	482.3	175.1	30.0	0.0369	0.0	21.2	0.07 3.00E-4
0.20241	482.0	176.5	35.0	0.0568	0.0	21.2	0.07 3.00E-4
0.20239	481.9	177.9	40.0	0.0766	0.0	21.2	0.07 3.00E-4
0.20234	481.8	179.3	45.0	0.0964	0.0	21.2	0.07 3.00E-4
0.20229	481.7	180.6	50.0	0.116	0.0	21.2	0.07 3.00E-4
0.20223	481.6	182.0	55.0	0.136	0.0	21.2	0.07 3.00E-4
0.20216	481.6	183.4	60.0	0.156	0.0	21.2	0.07 3.00E-4
0.20209	481.5	184.7	65.0	0.176	0.0	21.2	0.07 3.00E-4
0.20202	481.5	186.0	70.0	0.196	0.0	21.2	0.07 3.00E-4
0.20194	481.5	187.3	75.0	0.215	0.0	21.2	0.07 3.00E-4
0.20185	481.4	188.7	80.0	0.235	0.0	21.2	0.07 3.00E-4
0.20176	481.5	190.0	85.0	0.255	0.0	21.2	0.07 3.00E-4
0.20166	481.5	191.3	90.0	0.275	0.0	21.2	0.07 3.00E-4
0.20154	481.6	192.5	95.0	0.295	0.0	21.2	0.07 3.00E-4
0.20142	481.7	193.8	100.0	0.315	0.0	21.2	0.07 3.00E-4
0.20127	481.8	195.1	105.0	0.335	0.0	21.2	0.07 3.00E-4
0.20111	482.0	196.4	110.0	0.354	0.0	21.2	0.07 3.00E-4
0.20093	482.2	197.6	115.0	0.374	0.0	21.2	0.07 3.00E-4
0.20073	482.5	198.9	120.0	0.394	0.0	21.2	0.07 3.00E-4
0.20051	482.8	200.1	125.0	0.414	0.0	21.2	0.07 3.00E-4
0.20027	483.2	201.3	130.0	0.434	0.0	21.2	0.07 3.00E-4
0.20001	483.6	202.5	135.0	0.454	0.0	21.2	0.07 3.00E-4
0.19971	484.1	203.8	140.0	0.473	0.0	21.2	0.07 3.00E-4
0.19941	484.7	205.0	145.0	0.493	0.0	21.2	0.07 3.00E-4
0.19909	485.2	206.2	150.0	0.513	0.0	21.2	0.07 3.00E-4
0.19875	485.9	207.4	155.0	0.533	0.0	21.2	0.07 3.00E-4
0.1984	486.5	208.5	160.0	0.553	0.0	21.2	0.07 3.00E-4
0.19802	487.3	209.7	165.0	0.573	0.0	21.2	0.07 3.00E-4
0.19763	488.0	210.9	170.0	0.592	0.0	21.2	0.07 3.00E-4
0.19723	488.8	212.1	175.0	0.612	0.0	21.2	0.07 3.00E-4
0.1968	489.7	213.2	180.0	0.632	0.0	21.2	0.07 3.00E-4
0.19637	490.6	214.4	185.0	0.652	0.0	21.2	0.07 3.00E-4
0.19593	491.5	215.5	190.0	0.672	0.0	21.2	0.07 3.00E-4
0.19547	492.5	216.7	195.0	0.692	0.0	21.2	0.07 3.00E-4

					Kailua_min8.txt			
0.19499	493.5	217.8	200.0	0.712	0.0	21.2	0.07	3.00E-4
0.19451	494.5	218.9	205.0	0.731	0.0	21.2	0.07	3.00E-4
0.19402	495.5	220.1	210.0	0.751	0.0	21.2	0.07	3.00E-4
0.19352	496.6	221.2	215.0	0.771	0.0	21.2	0.07	3.00E-4
0.19301	497.8	222.3	220.0	0.791	0.0	21.2	0.07	3.00E-4
0.19249	498.9	223.4	225.0	0.811	0.0	21.2	0.07	3.00E-4
0.19196	500.1	224.5	230.0	0.831	0.0	21.2	0.07	3.00E-4
0.19143	501.3	225.6	235.0	0.85	0.0	21.2	0.07	3.00E-4
0.19087	502.6	226.7	240.0	0.87	0.0	21.2	0.07	3.00E-4
0.19033	503.8	227.8	245.0	0.89	0.0	21.2	0.07	3.00E-4
0.18978	505.1	228.9	250.0	0.91	0.0	21.2	0.07	3.00E-4
0.18923	506.3	229.9	255.0	0.93	0.0	21.2	0.07	3.00E-4
0.18867	507.7	231.0	260.0	0.95	0.0	21.2	0.07	3.00E-4
0.1881	509.0	232.1	265.0	0.969	0.0	21.2	0.07	3.00E-4
0.18755	510.3	233.1	270.0	0.989	0.0	21.2	0.07	3.00E-4
0.18699	511.6	234.2	275.0	1.009	0.0	21.2	0.07	3.00E-4
0.18642	513.0	235.2	280.0	1.029	0.0	21.2	0.07	3.00E-4
0.18585	514.4	236.3	285.0	1.049	0.0	21.2	0.07	3.00E-4
0.18528	515.8	237.3	290.0	1.069	0.0	21.2	0.07	3.00E-4
0.1847	517.2	238.4	295.0	1.089	0.0	21.2	0.07	3.00E-4
0.18412	518.6	239.4	300.0	1.108	0.0	21.2	0.07	3.00E-4
0.18355	520.0	240.4	305.0	1.128	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 41; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal	Amb-tem	Amb-pol	Solar rad s-1
					psu	C	kg/kg	
0.07	0.0	90.0	0.07	0.0003	35.18	24.42	0.0	0.000312
0.07	2.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	4.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	6.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	8.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	10.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	12.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	14.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	16.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	18.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	20.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	22.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	24.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	26.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	28.0	90.0	0.07	0.0003	35.18	24.43	0.0	0.000312
0.07	30.0	90.0	0.07	0.0003	35.18	24.42	0.0	0.000312
0.07	32.0	90.0	0.07	0.0003	35.17	24.38	0.0	0.000312

Kailua_min8.txt

0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.17	24.37	0.0	0.000312	
Ttl-flo	Temp							
(MGD)	(C)							
19.41	28.04							
Froude number:	7.747							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.261	67.3	1.475	-0.247	0.359	
40	105.4	0.07	10.59	45.29	2.182	-0.584	0.868	
60	105.3	0.07	15.31	30.48	3.231	-1.029	1.576	
80	105.1	0.07	21.76	20.51	4.791	-1.588	2.539	
100	104.6	0.07	30.0	13.8	7.109	-2.249	3.8	
120	103.7	0.07	39.9	9.289	10.55	-2.922	5.268	
140	102.3	0.07	51.78	6.251	15.67	-3.532	6.85	
160	100.5	0.07	66.37	4.207	23.27	-4.073	8.582	
180	98.21	0.07	84.57	2.831	34.57	-4.552	10.55	
200	95.32	0.07	107.5	1.905	51.37	-4.979	12.88	
215	92.73	0.07	128.5	1.415	69.12	-5.267	14.95	merging,
220	91.57	0.07	137.1	1.282	76.32	-5.377	15.87	
240	85.26	0.07	189.2	0.863	113.4	-5.841	20.75	
260	75.49	0.07	273.5	0.58	168.5	-6.321	27.92	
280	60.6	0.07	402.9	0.39	250.4	-6.808	38.42	axial vel
0.0179								
285	55.81	0.07	444.4	0.354	276.4	-6.931	41.73	max dilution
reached								
300	38.11	0.07	597.5	0.263	372.0	-7.298	53.78	
313	17.73	0.07	773.1	0.203	481.2	-7.618	67.45	axial vel
0.118 (trap1) surface,								
Const Eddy Diffusivity.								
m								
conc	dilutn	width	distnce	time				
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)	(m ^{0.67} /s ²)
0.2023	482.7	173.7	25.0	0.0171	0.0	21.2	0.07	3.00E-4
0.2024	482.3	175.1	30.0	0.0369	0.0	21.2	0.07	3.00E-4
0.20241	482.0	176.5	35.0	0.0568	0.0	21.2	0.07	3.00E-4
0.20239	481.9	177.9	40.0	0.0766	0.0	21.2	0.07	3.00E-4
0.20234	481.8	179.3	45.0	0.0965	0.0	21.2	0.07	3.00E-4
0.20229	481.7	180.6	50.0	0.116	0.0	21.2	0.07	3.00E-4
0.20223	481.6	182.0	55.0	0.136	0.0	21.2	0.07	3.00E-4
0.20216	481.6	183.3	60.0	0.156	0.0	21.2	0.07	3.00E-4
0.20209	481.5	184.7	65.0	0.176	0.0	21.2	0.07	3.00E-4
0.20202	481.5	186.0	70.0	0.196	0.0	21.2	0.07	3.00E-4
0.20194	481.5	187.3	75.0	0.216	0.0	21.2	0.07	3.00E-4
0.20185	481.4	188.7	80.0	0.235	0.0	21.2	0.07	3.00E-4
0.20176	481.5	190.0	85.0	0.255	0.0	21.2	0.07	3.00E-4
0.20166	481.5	191.3	90.0	0.275	0.0	21.2	0.07	3.00E-4
0.20154	481.6	192.5	95.0	0.295	0.0	21.2	0.07	3.00E-4
0.20142	481.7	193.8	100.0	0.315	0.0	21.2	0.07	3.00E-4
0.20127	481.8	195.1	105.0	0.335	0.0	21.2	0.07	3.00E-4
0.20111	482.0	196.3	110.0	0.354	0.0	21.2	0.07	3.00E-4
0.20093	482.2	197.6	115.0	0.374	0.0	21.2	0.07	3.00E-4
0.20073	482.5	198.8	120.0	0.394	0.0	21.2	0.07	3.00E-4
0.20051	482.8	200.1	125.0	0.414	0.0	21.2	0.07	3.00E-4
0.20027	483.2	201.3	130.0	0.434	0.0	21.2	0.07	3.00E-4
0.20001	483.6	202.5	135.0	0.454	0.0	21.2	0.07	3.00E-4
0.19971	484.1	203.8	140.0	0.473	0.0	21.2	0.07	3.00E-4
0.19941	484.7	205.0	145.0	0.493	0.0	21.2	0.07	3.00E-4
0.19909	485.2	206.2	150.0	0.513	0.0	21.2	0.07	3.00E-4
0.19875	485.9	207.4	155.0	0.533	0.0	21.2	0.07	3.00E-4
0.1984	486.5	208.5	160.0	0.553	0.0	21.2	0.07	3.00E-4

	Kailua_min8.txt							
0.19802	487.3	209.7	165.0	0.573	0.0	21.2	0.07	3.00E-4
0.19763	488.0	210.9	170.0	0.593	0.0	21.2	0.07	3.00E-4
0.19723	488.8	212.1	175.0	0.612	0.0	21.2	0.07	3.00E-4
0.1968	489.7	213.2	180.0	0.632	0.0	21.2	0.07	3.00E-4
0.19637	490.6	214.4	185.0	0.652	0.0	21.2	0.07	3.00E-4
0.19593	491.5	215.5	190.0	0.672	0.0	21.2	0.07	3.00E-4
0.19547	492.5	216.7	195.0	0.692	0.0	21.2	0.07	3.00E-4
0.19499	493.5	217.8	200.0	0.712	0.0	21.2	0.07	3.00E-4
0.19451	494.5	218.9	205.0	0.731	0.0	21.2	0.07	3.00E-4
0.19402	495.5	220.1	210.0	0.751	0.0	21.2	0.07	3.00E-4
0.19352	496.6	221.2	215.0	0.771	0.0	21.2	0.07	3.00E-4
0.19301	497.8	222.3	220.0	0.791	0.0	21.2	0.07	3.00E-4
0.19249	498.9	223.4	225.0	0.811	0.0	21.2	0.07	3.00E-4
0.19196	500.1	224.5	230.0	0.831	0.0	21.2	0.07	3.00E-4
0.19143	501.3	225.6	235.0	0.85	0.0	21.2	0.07	3.00E-4
0.19087	502.6	226.7	240.0	0.87	0.0	21.2	0.07	3.00E-4
0.19033	503.8	227.8	245.0	0.89	0.0	21.2	0.07	3.00E-4
0.18978	505.1	228.9	250.0	0.91	0.0	21.2	0.07	3.00E-4
0.18923	506.3	229.9	255.0	0.93	0.0	21.2	0.07	3.00E-4
0.18867	507.7	231.0	260.0	0.95	0.0	21.2	0.07	3.00E-4
0.1881	509.0	232.1	265.0	0.969	0.0	21.2	0.07	3.00E-4
0.18755	510.3	233.1	270.0	0.989	0.0	21.2	0.07	3.00E-4
0.18699	511.6	234.2	275.0	1.009	0.0	21.2	0.07	3.00E-4
0.18642	513.0	235.2	280.0	1.029	0.0	21.2	0.07	3.00E-4
0.18585	514.4	236.3	285.0	1.049	0.0	21.2	0.07	3.00E-4
0.18527	515.8	237.3	290.0	1.069	0.0	21.2	0.07	3.00E-4
0.1847	517.2	238.4	295.0	1.089	0.0	21.2	0.07	3.00E-4
0.18412	518.6	239.4	300.0	1.108	0.0	21.2	0.07	3.00E-4
0.18354	520.0	240.4	305.0	1.128	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 42; ambient file C:\Plumes\kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-dir deg	Amb-sal	Amb-tem	Amb-pol	Solar rad
						psu	C	kg/kg	s-1
0.07	0.0	90.0	0.07	0.0003	90.0	34.91	25.72	0.0	0.000312
0.07	2.0	90.0	0.07	0.0003	90.0	34.91	25.69	0.0	0.000312
0.07	4.0	90.0	0.07	0.0003	90.0	34.92	25.66	0.0	0.000312
0.07	6.0	90.0	0.07	0.0003	90.0	34.92	25.66	0.0	0.000312
0.07	8.0	90.0	0.07	0.0003	90.0	34.93	25.65	0.0	0.000312
0.07	10.0	90.0	0.07	0.0003	90.0	34.93	25.64	0.0	0.000312
0.07	12.0	90.0	0.07	0.0003	90.0	34.93	25.63	0.0	0.000312
0.07	14.0	90.0	0.07	0.0003	90.0	34.93	25.62	0.0	0.000312
0.07	16.0	90.0	0.07	0.0003	90.0	34.94	25.59	0.0	0.000312
0.07	18.0	90.0	0.07	0.0003	90.0	34.94	25.59	0.0	0.000312
0.07	20.0	90.0	0.07	0.0003	90.0	34.95	25.61	0.0	0.000312
0.07	22.0	90.0	0.07	0.0003	90.0	34.93	25.6	0.0	0.000312
0.07	24.0	90.0	0.07	0.0003	90.0	34.94	25.58	0.0	0.000312

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	26.0	0.07	90.0	34.94	25.56	0.0	0.000312	
0.07	90.0	0.0003	90.0	34.95	25.55	0.0	0.000312	
0.07	28.0	0.07	90.0	34.95	25.55	0.0	0.000312	
0.07	90.0	0.0003	90.0	34.95	25.55	0.0	0.000312	
0.07	30.0	0.07	90.0	34.95	25.55	0.0	0.000312	
0.07	90.0	0.0003	90.0	34.95	25.55	0.0	0.000312	
0.07	32.0	0.07	90.0	34.95	25.55	0.0	0.000312	
0.07	90.0	0.0003	90.0	34.94	25.55	0.0	0.000312	
0.07	33.0	0.07	90.0	34.94	25.55	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
22.29	28.04							
Froude number:	9.003							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.272	67.3	1.476	-0.252	0.365	
40	105.4	0.07	10.63	45.29	2.182	-0.598	0.884	
60	105.4	0.07	15.43	30.48	3.232	-1.061	1.612	
80	105.2	0.07	22.11	20.51	4.793	-1.654	2.611	
100	104.7	0.07	30.89	13.8	7.112	-2.375	3.943	
120	103.9	0.07	41.65	9.289	10.56	-3.162	5.584	
140	102.5	0.07	54.53	6.251	15.68	-3.897	7.377	
160	100.6	0.07	70.19	4.207	23.29	-4.551	9.321	
180	98.2	0.07	89.62	2.831	34.59	-5.129	11.5	
200	95.14	0.07	114.0	1.905	51.39	-5.644	14.04	
211	93.17	0.07	130.0	1.532	63.89	-5.902	15.65	
220	90.86	0.07	146.8	1.282	76.36	-6.153	17.48	
240	83.6	0.07	205.8	0.863	113.4	-6.74	22.96	
260	72.47	0.07	303.5	0.58	168.6	-7.347	30.96	
278	57.58	0.07	436.9	0.406	240.8	-7.911	41.44	
0.0207	max dilution reached							
280	55.53	0.07	454.5	0.39	250.5	-7.974	42.86	
300	30.36	0.07	701.9	0.263	372.2	-8.611	60.38	
307	19.21	0.07	831.0	0.229	427.5	-8.843	68.56	
0.109	(trap1) surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						173.91	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.2278	428.9	175.0	25.0	0.0156	0.0	21.2	0.07	3.00E-4
0.22793	428.5	176.5	30.0	0.0354	0.0	21.2	0.07	3.00E-4
0.22795	428.3	177.9	35.0	0.0553	0.0	21.2	0.07	3.00E-4
0.22793	428.1	179.3	40.0	0.0751	0.0	21.2	0.07	3.00E-4
0.22788	428.0	180.7	45.0	0.095	0.0	21.2	0.07	3.00E-4
0.22782	427.9	182.0	50.0	0.115	0.0	21.2	0.07	3.00E-4
0.22775	427.9	183.4	55.0	0.135	0.0	21.2	0.07	3.00E-4
0.22768	427.8	184.8	60.0	0.154	0.0	21.2	0.07	3.00E-4
0.2276	427.8	186.1	65.0	0.174	0.0	21.2	0.07	3.00E-4
0.22751	427.8	187.4	70.0	0.194	0.0	21.2	0.07	3.00E-4
0.22743	427.7	188.8	75.0	0.214	0.0	21.2	0.07	3.00E-4
0.22733	427.7	190.1	80.0	0.234	0.0	21.2	0.07	3.00E-4
0.22723	427.7	191.4	85.0	0.254	0.0	21.2	0.07	3.00E-4
0.22711	427.8	192.7	90.0	0.274	0.0	21.2	0.07	3.00E-4
0.22699	427.8	194.0	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.22685	427.9	195.3	100.0	0.313	0.0	21.2	0.07	3.00E-4
0.22669	428.0	196.5	105.0	0.333	0.0	21.2	0.07	3.00E-4
0.22651	428.2	197.8	110.0	0.353	0.0	21.2	0.07	3.00E-4
0.22631	428.4	199.1	115.0	0.373	0.0	21.2	0.07	3.00E-4
0.2261	428.6	200.3	120.0	0.393	0.0	21.2	0.07	3.00E-4
0.22585	428.9	201.6	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.22559	429.2	202.8	130.0	0.432	0.0	21.2	0.07	3.00E-4

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0.22253	429.6	204.0	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.22498	430.0	205.2	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.22464	430.5	206.4	145.0	0.492	0.0	21.2	0.07	3.00E-4
0.22428	431.0	207.7	150.0	0.512	0.0	21.2	0.07	3.00E-4
0.2239	431.5	208.9	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.22351	432.1	210.0	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.22309	432.8	211.2	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.22266	433.4	212.4	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.22221	434.1	213.6	175.0	0.611	0.0	21.2	0.07	3.00E-4
0.22174	434.9	214.7	180.0	0.631	0.0	21.2	0.07	3.00E-4
0.22125	435.7	215.9	185.0	0.651	0.0	21.2	0.07	3.00E-4
0.22076	436.4	217.1	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.22025	437.3	218.2	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.21973	438.2	219.3	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.21919	439.1	220.5	205.0	0.73	0.0	21.2	0.07	3.00E-4
0.21863	440.0	221.6	210.0	0.75	0.0	21.2	0.07	3.00E-4
0.21808	440.9	222.7	215.0	0.77	0.0	21.2	0.07	3.00E-4
0.21751	441.9	223.8	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.21693	442.9	225.0	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.21634	444.0	226.1	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.21575	445.0	227.2	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.21513	446.1	228.3	240.0	0.869	0.0	21.2	0.07	3.00E-4
0.21452	447.2	229.4	245.0	0.889	0.0	21.2	0.07	3.00E-4
0.21391	448.3	230.4	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.21329	449.5	231.5	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.21266	450.6	232.6	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.21203	451.8	233.7	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.2114	453.0	234.7	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.21078	454.1	235.8	275.0	1.008	0.0	21.2	0.07	3.00E-4
0.21014	455.3	236.9	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.2095	456.5	237.9	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.20886	457.8	239.0	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.20822	459.0	240.0	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.20757	460.2	241.0	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.20693	461.5	242.1	305.0	1.127	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 43; ambient file C:\Plumes\kailua_min8.001.db; diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg		Disprsn m0.67/s2	Amb-dir deg	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	solar rad s-1
		m	s						
0.07	0.0	0.07	0.0003		90.0	34.91	25.72	0.0	0.000312
0.07	2.0	0.07	0.0003		90.0	34.91	25.69	0.0	0.000312
0.07	90.0	0.07	0.0003		90.0	34.92	25.66	0.0	0.000312
0.07	4.0	0.07	0.0003		90.0	34.92	25.66	0.0	0.000312
0.07	90.0	0.07	0.0003		90.0	34.92	25.66	0.0	0.000312
0.07	6.0	0.07	0.0003		90.0	34.92	25.66	0.0	0.000312
0.07	90.0	0.07	0.0003		90.0	34.93	25.65	0.0	0.000312
0.07	8.0	0.07	0.0003		90.0	34.93	25.65	0.0	0.000312
0.07	90.0	0.07	0.0003		90.0	34.93	25.64	0.0	0.000312
0.07	10.0	0.07	0.0003		90.0	34.93	25.64	0.0	0.000312
0.07	90.0	0.07	0.0003		90.0	34.93	25.63	0.0	0.000312
0.07	12.0	0.07	0.0003		90.0	34.93	25.62	0.0	0.000312
0.07	90.0	0.07	0.0003		90.0	34.93	25.62	0.0	0.000312
0.07	14.0	0.07	0.0003		90.0	34.93	25.62	0.0	0.000312
0.07	90.0	0.07	0.0003		90.0	34.94	25.59	0.0	0.000312
0.07	16.0	0.07	0.0003		90.0	34.94	25.59	0.0	0.000312
0.07	90.0	0.07	0.0003		90.0	34.94	25.59	0.0	0.000312
0.07	18.0	0.07	0.0003		90.0	34.94	25.59	0.0	0.000312

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0.07	20.0	0.07	90.0	34.95	25.61	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	34.93	25.6	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	34.94	25.58	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	34.94	25.56	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	34.95	25.55	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	34.95	25.55	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	34.95	25.55	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	34.94	25.55	0.0	0.000312	
	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
17.18	28.04							
Froude number:	6.939							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.252	67.3	1.476	-0.244	0.354;	
40	105.4	0.07	10.55	45.29	2.182	-0.572	0.853;	
60	105.3	0.07	15.2	30.48	3.232	-0.999	1.544;	
80	105.1	0.07	21.43	20.51	4.793	-1.528	2.473;	
100	104.5	0.07	29.23	13.8	7.112	-2.133	3.665;	
120	103.6	0.07	38.54	9.289	10.56	-2.72	5.002;	
140	102.3	0.07	49.79	6.251	15.68	-3.245	6.444;	
160	100.6	0.07	63.67	4.207	23.29	-3.711	8.041;	
180	98.39	0.07	81.02	2.831	34.59	-4.123	9.881;	
200	95.68	0.07	102.8	1.905	51.39	-4.49	12.08;	
218	92.73	0.07	127.3	1.334	73.39	-4.785	14.47; merging,	
220	92.31	0.07	130.5	1.282	76.36	-4.821	14.81;	
240	86.76	0.07	178.1	0.863	113.4	-5.204	19.29;	
260	78.2	0.07	258.8	0.58	168.6	-5.605	25.99;	
280	65.37	0.07	390.0	0.391	250.5	-6.021	36.04;	
291	55.56	0.07	483.9	0.314	311.4	-6.257	43.66; axial vel	
0.0216	max dilution reached							
300	45.75	0.07	579.3	0.263	372.2	-6.451	51.21;	
317	22.98	0.07	869.0	0.188	521.2	-6.821	69.81; axial vel	
0.0865	(trap1) surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.88	
m	conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.18684	522.9	175.9	25.0	0.0144	0.0	21.2	0.07	3.00E-4
0.18696	522.3	177.3	30.0	0.0342	0.0	21.2	0.07	3.00E-4
0.18698	522.1	178.8	35.0	0.0541	0.0	21.2	0.07	3.00E-4
0.18696	521.9	180.2	40.0	0.0739	0.0	21.2	0.07	3.00E-4
0.18692	521.8	181.5	45.0	0.0937	0.0	21.2	0.07	3.00E-4
0.18687	521.7	182.9	50.0	0.114	0.0	21.2	0.07	3.00E-4
0.18682	521.6	184.3	55.0	0.133	0.0	21.2	0.07	3.00E-4
0.18676	521.5	185.7	60.0	0.153	0.0	21.2	0.07	3.00E-4
0.18669	521.5	187.0	65.0	0.173	0.0	21.2	0.07	3.00E-4
0.18662	521.4	188.3	70.0	0.193	0.0	21.2	0.07	3.00E-4
0.18655	521.4	189.7	75.0	0.213	0.0	21.2	0.07	3.00E-4
0.18647	521.4	191.0	80.0	0.233	0.0	21.2	0.07	3.00E-4
0.18639	521.4	192.3	85.0	0.252	0.0	21.2	0.07	3.00E-4
0.1863	521.4	193.6	90.0	0.272	0.0	21.2	0.07	3.00E-4
0.1862	521.5	194.9	95.0	0.292	0.0	21.2	0.07	3.00E-4
0.18608	521.6	196.2	100.0	0.312	0.0	21.2	0.07	3.00E-4

Kailua_min8.txt								
0.18596	521.7	197.5	105.0	0.332	0.0	21.2	0.07	3.00E-4
0.18581	521.9	198.7	110.0	0.352	0.0	21.2	0.07	3.00E-4
0.18565	522.1	200.0	115.0	0.372	0.0	21.2	0.07	3.00E-4
0.18548	522.4	201.3	120.0	0.391	0.0	21.2	0.07	3.00E-4
0.18528	522.7	202.5	125.0	0.411	0.0	21.2	0.07	3.00E-4
0.18507	523.1	203.7	130.0	0.431	0.0	21.2	0.07	3.00E-4
0.18483	523.6	205.0	135.0	0.451	0.0	21.2	0.07	3.00E-4
0.18458	524.1	206.2	140.0	0.471	0.0	21.2	0.07	3.00E-4
0.1843	524.7	207.4	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.18401	525.3	208.6	150.0	0.51	0.0	21.2	0.07	3.00E-4
0.1837	525.9	209.8	155.0	0.53	0.0	21.2	0.07	3.00E-4
0.18338	526.6	211.0	160.0	0.55	0.0	21.2	0.07	3.00E-4
0.18304	527.4	212.2	165.0	0.57	0.0	21.2	0.07	3.00E-4
0.18269	528.2	213.4	170.0	0.59	0.0	21.2	0.07	3.00E-4
0.18232	529.0	214.6	175.0	0.61	0.0	21.2	0.07	3.00E-4
0.18194	529.9	215.7	180.0	0.629	0.0	21.2	0.07	3.00E-4
0.18155	530.9	216.9	185.0	0.649	0.0	21.2	0.07	3.00E-4
0.18115	531.8	218.0	190.0	0.669	0.0	21.2	0.07	3.00E-4
0.18073	532.8	219.2	195.0	0.689	0.0	21.2	0.07	3.00E-4
0.18031	533.9	220.3	200.0	0.709	0.0	21.2	0.07	3.00E-4
0.17987	535.0	221.5	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.17942	536.1	222.6	210.0	0.748	0.0	21.2	0.07	3.00E-4
0.17897	537.3	223.7	215.0	0.768	0.0	21.2	0.07	3.00E-4
0.1785	538.4	224.9	220.0	0.788	0.0	21.2	0.07	3.00E-4
0.17803	539.7	226.0	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.17755	540.9	227.1	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.17706	542.2	228.2	235.0	0.848	0.0	21.2	0.07	3.00E-4
0.17656	543.5	229.3	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.17606	544.9	230.4	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.17556	546.2	231.5	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.17506	547.6	232.6	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.17455	549.0	233.6	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.17403	550.4	234.7	265.0	0.967	0.0	21.2	0.07	3.00E-4
0.17351	551.8	235.8	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.17301	553.2	236.8	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.17249	554.7	237.9	280.0	1.026	0.0	21.2	0.07	3.00E-4
0.17197	556.1	239.0	285.0	1.046	0.0	21.2	0.07	3.00E-4
0.17144	557.6	240.0	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.17092	559.1	241.0	295.0	1.086	0.0	21.2	0.07	3.00E-4
0.17039	560.6	242.1	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.16986	562.2	243.1	305.0	1.125	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 44; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg	Amb-dir Disprsn m/s	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1
							m0.67/s2
0.07	0.0	90.0	0.07 0.0003	34.91	25.72	0.0	0.000312
0.07	2.0	90.0	0.07 0.0003	34.91	25.69	0.0	0.000312
0.07	4.0	90.0	0.07 0.0003	34.92	25.66	0.0	0.000312
0.07	6.0	90.0	0.07 0.0003	34.92	25.66	0.0	0.000312
0.07	8.0	90.0	0.07 0.0003	34.93	25.65	0.0	0.000312
0.07	10.0	90.0	0.07 0.0003	34.93	25.64	0.0	0.000312
0.07	12.0	90.0	0.07 0.0003	34.93	25.63	0.0	0.000312

Kailua_min8.txt

0.07	14.0	0.07	90.0	34.93	25.62	0.0	0.000312
	90.0	0.0003					
0.07	16.0	0.07	90.0	34.94	25.59	0.0	0.000312
	90.0	0.0003					
0.07	18.0	0.07	90.0	34.94	25.59	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	34.95	25.61	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	34.93	25.6	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	34.94	25.58	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	34.94	25.56	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	34.95	25.55	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	34.95	25.55	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	34.95	25.55	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	34.94	25.55	0.0	0.000312
	90.0	0.0003					
Ttl-flo Temp (MGD) (C)	19.26 28.04						
Froude number:	7.779						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.261	67.3	1.476	-0.247	0.359;
40	105.4	0.07	10.59	45.29	2.182	-0.584	0.867;
60	105.3	0.07	15.31	30.48	3.232	-1.027	1.575;
80	105.1	0.07	21.76	20.51	4.793	-1.585	2.536;
100	104.6	0.07	30.01	13.8	7.112	-2.245	3.797;
120	103.7	0.07	39.94	9.289	10.56	-2.916	5.266;
140	102.4	0.07	51.85	6.251	15.68	-3.526	6.852;
160	100.6	0.07	66.48	4.207	23.29	-4.066	8.589;
180	98.29	0.07	84.7	2.831	34.59	-4.545	10.57;
200	95.43	0.07	107.6	1.905	51.39	-4.97	12.9;
215	92.86	0.07	128.6	1.415	69.16	-5.258	14.98; merging,
220	91.71	0.07	137.3	1.282	76.36	-5.367	15.91;
240	85.46	0.07	189.8	0.863	113.4	-5.83	20.8;
260	75.84	0.07	277.5	0.58	168.6	-6.312	28.05;
280	61.33	0.07	417.4	0.39	250.5	-6.811	38.89; axial vel
0.0176							
285	56.61	0.07	460.4	0.354	276.5	-6.939	42.37; max dilution
reached							
300	39.4	0.07	629.8	0.263	372.2	-7.321	55.01;
313	20.56	0.07	861.4	0.203	481.5	-7.661	69.7; axial vel
0.0997 (trap1) surface,							
Const Eddy Diffusivity.							
m							
	Farfield dispersion based on wastefield width of						174.68
conc	dilutn	width	distnce	time			
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.20225	483.1	175.7	25.0	0.0144	0.0	21.2	0.07 3.00E-4
0.20238	482.6	177.1	30.0	0.0342	0.0	21.2	0.07 3.00E-4
0.2024	482.3	178.6	35.0	0.0541	0.0	21.2	0.07 3.00E-4
0.20238	482.1	180.0	40.0	0.0739	0.0	21.2	0.07 3.00E-4
0.20234	482.0	181.3	45.0	0.0938	0.0	21.2	0.07 3.00E-4
0.20228	481.9	182.7	50.0	0.114	0.0	21.2	0.07 3.00E-4
0.20222	481.9	184.1	55.0	0.133	0.0	21.2	0.07 3.00E-4
0.20216	481.8	185.5	60.0	0.153	0.0	21.2	0.07 3.00E-4
0.20209	481.8	186.8	65.0	0.173	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.20201	481.7	188.1	70.0	0.193	0.0	21.2	0.07	3.00E-4
0.20194	481.7	189.5	75.0	0.213	0.0	21.2	0.07	3.00E-4
0.20185	481.7	190.8	80.0	0.233	0.0	21.2	0.07	3.00E-4
0.20176	481.7	192.1	85.0	0.252	0.0	21.2	0.07	3.00E-4
0.20166	481.7	193.4	90.0	0.272	0.0	21.2	0.07	3.00E-4
0.20155	481.8	194.7	95.0	0.292	0.0	21.2	0.07	3.00E-4
0.20143	481.9	196.0	100.0	0.312	0.0	21.2	0.07	3.00E-4
0.20129	482.0	197.3	105.0	0.332	0.0	21.2	0.07	3.00E-4
0.20114	482.2	198.5	110.0	0.352	0.0	21.2	0.07	3.00E-4
0.20096	482.4	199.8	115.0	0.372	0.0	21.2	0.07	3.00E-4
0.20077	482.6	201.0	120.0	0.391	0.0	21.2	0.07	3.00E-4
0.20056	482.9	202.3	125.0	0.411	0.0	21.2	0.07	3.00E-4
0.20032	483.3	203.5	130.0	0.431	0.0	21.2	0.07	3.00E-4
0.20007	483.7	204.8	135.0	0.451	0.0	21.2	0.07	3.00E-4
0.1998	484.2	206.0	140.0	0.471	0.0	21.2	0.07	3.00E-4
0.19949	484.7	207.2	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.19918	485.3	208.4	150.0	0.51	0.0	21.2	0.07	3.00E-4
0.19885	485.9	209.6	155.0	0.53	0.0	21.2	0.07	3.00E-4
0.1985	486.5	210.8	160.0	0.55	0.0	21.2	0.07	3.00E-4
0.19813	487.2	212.0	165.0	0.57	0.0	21.2	0.07	3.00E-4
0.19775	488.0	213.2	170.0	0.59	0.0	21.2	0.07	3.00E-4
0.19735	488.8	214.3	175.0	0.61	0.0	21.2	0.07	3.00E-4
0.19694	489.6	215.5	180.0	0.629	0.0	21.2	0.07	3.00E-4
0.19651	490.5	216.7	185.0	0.649	0.0	21.2	0.07	3.00E-4
0.19608	491.4	217.8	190.0	0.669	0.0	21.2	0.07	3.00E-4
0.19563	492.3	219.0	195.0	0.689	0.0	21.2	0.07	3.00E-4
0.19517	493.3	220.1	200.0	0.709	0.0	21.2	0.07	3.00E-4
0.19469	494.3	221.3	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.1942	495.3	222.4	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.19371	496.4	223.5	215.0	0.768	0.0	21.2	0.07	3.00E-4
0.19321	497.5	224.6	220.0	0.788	0.0	21.2	0.07	3.00E-4
0.1927	498.6	225.8	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.19218	499.8	226.9	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.19165	500.9	228.0	235.0	0.848	0.0	21.2	0.07	3.00E-4
0.1911	502.2	229.1	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.19057	503.4	230.2	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.19002	504.7	231.3	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.18948	505.9	232.3	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.18892	507.2	233.4	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.18837	508.5	234.5	265.0	0.967	0.0	21.2	0.07	3.00E-4
0.1878	509.8	235.6	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.18726	511.1	236.6	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.1867	512.5	237.7	280.0	1.026	0.0	21.2	0.07	3.00E-4
0.18613	513.8	238.7	285.0	1.046	0.0	21.2	0.07	3.00E-4
0.18556	515.2	239.8	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.18499	516.6	240.8	295.0	1.086	0.0	21.2	0.07	3.00E-4
0.18442	518.0	241.9	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.18385	519.4	242.9	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 45; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg	Amb-dir Disprsn m/s	Amb-sal deg	Amb-tem psu	Amb-pol c	Solar rad kg/kg	s-1
	0.0	0.07	90.0	0.0003	35.13	26.04	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.11	26.01	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.11	26.02	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.13	26.03	0.0	0.000312

Kailua_min8.txt

0.07	90.0	0.0003						
0.07	8.0	0.07	90.0	35.13	26.03	0.0	0.000312	
0.07	90.0	0.0003						
0.07	10.0	0.07	90.0	35.13	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.13	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.13	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.13	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.13	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.13	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.13	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.13	26.03	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.13	26.02	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.12	26.02	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.12	25.97	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.11	25.93	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.12	25.89	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
14.9	28.04							
Froude number:	6.017							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.239	67.3	1.476	-0.238	0.348	
40	105.4	0.07	10.5	45.29	2.182	-0.555	0.834	
60	105.3	0.07	15.02	30.48	3.232	-0.961	1.501	
80	105.0	0.07	20.95	20.51	4.793	-1.452	2.389	
100	104.4	0.07	28.17	13.8	7.112	-1.983	3.477	
120	103.5	0.07	36.79	9.289	10.56	-2.475	4.662	
140	102.2	0.07	47.28	6.251	15.68	-2.912	5.948	
160	100.6	0.07	60.31	4.207	23.29	-3.298	7.393	
180	98.55	0.07	76.66	2.831	34.59	-3.641	9.083	
200	96.03	0.07	97.27	1.905	51.39	-3.946	11.12	
220	92.97	0.07	123.4	1.282	76.36	-4.218	13.65	
222	92.63	0.07	126.3	1.232	79.44	-4.243	13.93	merging,
240	88.26	0.07	165.8	0.863	113.5	-4.517	17.62	
260	80.84	0.07	236.6	0.58	168.6	-4.84	23.76	
280	69.59	0.07	347.8	0.391	250.5	-5.169	32.85	
298	54.69	0.07	497.5	0.273	357.7	-5.469	44.76	axial vel
0.0219	max dilution reached							
300	52.67	0.07	517.7	0.263	372.2	-5.503	46.36	
320	27.24	0.07	770.6	0.177	553.0	-5.841	66.45	
324	20.76	0.07	832.6	0.163	598.6	-5.909	71.51	axial vel
0.0968	(trap1) surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of							173.95
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16262	600.8	174.8	25.0	0.0124	0.0	21.2	0.07	3.00E-4
0.16274	600.0	176.3	30.0	0.0323	0.0	21.2	0.07	3.00E-4

Kailua_min8.txt

0.16276	599.7	177.7	35.0	0.0521	0.0	21.2	0.07	3.00E-4
0.16275	599.5	179.1	40.0	0.0719	0.0	21.2	0.07	3.00E-4
0.16272	599.3	180.5	45.0	0.0918	0.0	21.2	0.07	3.00E-4
0.16268	599.2	181.8	50.0	0.112	0.0	21.2	0.07	3.00E-4
0.16263	599.1	183.2	55.0	0.131	0.0	21.2	0.07	3.00E-4
0.16257	599.1	184.6	60.0	0.151	0.0	21.2	0.07	3.00E-4
0.16252	599.0	185.9	65.0	0.171	0.0	21.2	0.07	3.00E-4
0.16246	599.0	187.3	70.0	0.191	0.0	21.2	0.07	3.00E-4
0.1624	598.9	188.6	75.0	0.211	0.0	21.2	0.07	3.00E-4
0.16233	598.9	189.9	80.0	0.231	0.0	21.2	0.07	3.00E-4
0.16226	598.9	191.2	85.0	0.251	0.0	21.2	0.07	3.00E-4
0.16218	599.0	192.5	90.0	0.27	0.0	21.2	0.07	3.00E-4
0.16209	599.0	193.8	95.0	0.29	0.0	21.2	0.07	3.00E-4
0.16199	599.1	195.1	100.0	0.31	0.0	21.2	0.07	3.00E-4
0.16188	599.3	196.4	105.0	0.33	0.0	21.2	0.07	3.00E-4
0.16176	599.5	197.6	110.0	0.35	0.0	21.2	0.07	3.00E-4
0.16162	599.8	198.9	115.0	0.37	0.0	21.2	0.07	3.00E-4
0.16146	600.1	200.2	120.0	0.389	0.0	21.2	0.07	3.00E-4
0.16129	600.4	201.4	125.0	0.409	0.0	21.2	0.07	3.00E-4
0.16111	600.9	202.6	130.0	0.429	0.0	21.2	0.07	3.00E-4
0.1609	601.4	203.9	135.0	0.449	0.0	21.2	0.07	3.00E-4
0.16068	602.0	205.1	140.0	0.469	0.0	21.2	0.07	3.00E-4
0.16044	602.7	206.3	145.0	0.489	0.0	21.2	0.07	3.00E-4
0.16019	603.4	207.5	150.0	0.508	0.0	21.2	0.07	3.00E-4
0.15992	604.1	208.7	155.0	0.528	0.0	21.2	0.07	3.00E-4
0.15964	604.9	209.9	160.0	0.548	0.0	21.2	0.07	3.00E-4
0.15934	605.8	211.1	165.0	0.568	0.0	21.2	0.07	3.00E-4
0.15904	606.7	212.3	170.0	0.588	0.0	21.2	0.07	3.00E-4
0.15872	607.7	213.4	175.0	0.608	0.0	21.2	0.07	3.00E-4
0.15838	608.7	214.6	180.0	0.627	0.0	21.2	0.07	3.00E-4
0.15804	609.8	215.8	185.0	0.647	0.0	21.2	0.07	3.00E-4
0.15769	610.9	216.9	190.0	0.667	0.0	21.2	0.07	3.00E-4
0.15733	612.1	218.1	195.0	0.687	0.0	21.2	0.07	3.00E-4
0.15695	613.3	219.2	200.0	0.707	0.0	21.2	0.07	3.00E-4
0.15657	614.6	220.3	205.0	0.727	0.0	21.2	0.07	3.00E-4
0.15618	615.9	221.5	210.0	0.747	0.0	21.2	0.07	3.00E-4
0.15578	617.2	222.6	215.0	0.766	0.0	21.2	0.07	3.00E-4
0.15538	618.6	223.7	220.0	0.786	0.0	21.2	0.07	3.00E-4
0.15497	620.0	224.8	225.0	0.806	0.0	21.2	0.07	3.00E-4
0.15455	621.4	225.9	230.0	0.826	0.0	21.2	0.07	3.00E-4
0.15412	622.9	227.0	235.0	0.846	0.0	21.2	0.07	3.00E-4
0.15368	624.4	228.1	240.0	0.866	0.0	21.2	0.07	3.00E-4
0.15325	626.0	229.2	245.0	0.885	0.0	21.2	0.07	3.00E-4
0.15281	627.5	230.3	250.0	0.905	0.0	21.2	0.07	3.00E-4
0.15237	629.1	231.4	255.0	0.925	0.0	21.2	0.07	3.00E-4
0.15192	630.7	232.5	260.0	0.945	0.0	21.2	0.07	3.00E-4
0.15147	632.3	233.5	265.0	0.965	0.0	21.2	0.07	3.00E-4
0.15102	634.0	234.6	270.0	0.985	0.0	21.2	0.07	3.00E-4
0.15058	635.6	235.7	275.0	1.004	0.0	21.2	0.07	3.00E-4
0.15012	637.3	236.7	280.0	1.024	0.0	21.2	0.07	3.00E-4
0.14967	639.0	237.8	285.0	1.044	0.0	21.2	0.07	3.00E-4
0.14921	640.7	238.8	290.0	1.064	0.0	21.2	0.07	3.00E-4
0.14875	642.4	239.9	295.0	1.084	0.0	21.2	0.07	3.00E-4
0.14829	644.1	240.9	300.0	1.104	0.0	21.2	0.07	3.00E-4
0.14783	645.9	241.9	305.0	1.124	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 46; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Depth Far-spd	Amb-cur Far-dir	Amb-dir Disprsn	Amb-sal	Amb-tem	Amb-pol	Solar rad
m/s	m deg	m/s 0.67/s2	psu	C	kg/kg	s-1

Kailua_min8.txt

0.07	0.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	2.0	0.07	90.0	35.11	26.01	0.0	0.000312
	90.0	0.0003					
0.07	4.0	0.07	90.0	35.11	26.02	0.0	0.000312
	90.0	0.0003					
0.07	6.0	0.07	90.0	35.13	26.03	0.0	0.000312
	90.0	0.0003					
0.07	8.0	0.07	90.0	35.13	26.03	0.0	0.000312
	90.0	0.0003					
0.07	10.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	12.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	14.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	16.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	18.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	35.13	26.03	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	35.13	26.02	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	35.12	26.02	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	35.12	25.97	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.11	25.93	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.12	25.89	0.0	0.000312
	90.0	0.0003					
	Ttl-flo	Temp					
	(MGD)	(C)					
	16.39	28.04					
Froude number:	6.619						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.248	67.3	1.476	-0.242	0.352
40	105.4	0.07	10.54	45.29	2.182	-0.567	0.847
60	105.3	0.07	15.14	30.48	3.232	-0.987	1.53
80	105.0	0.07	21.28	20.51	4.793	-1.503	2.446
100	104.5	0.07	28.89	13.8	7.112	-2.084	3.606
120	103.6	0.07	37.97	9.289	10.56	-2.638	4.891
140	102.3	0.07	48.96	6.251	15.68	-3.133	6.278
160	100.6	0.07	62.55	4.207	23.29	-3.571	7.823
180	98.44	0.07	79.58	2.831	34.59	-3.959	9.612
200	95.8	0.07	101.0	1.905	51.39	-4.304	11.76
219	92.76	0.07	126.7	1.308	74.86	-4.597	14.25
220	92.56	0.07	128.3	1.282	76.36	-4.614	14.41
240	87.29	0.07	174.6	0.863	113.5	-4.97	18.76
260	79.09	0.07	250.5	0.58	168.6	-5.346	25.3
280	66.66	0.07	369.6	0.391	250.5	-5.727	34.94
293	55.37	0.07	478.5	0.302	324.0	-5.979	43.58
0.0215 max dilution reached							axial vel
300	47.92	0.07	550.1	0.263	372.2	-6.115	49.24
320	19.72	0.07	816.8	0.177	553.0	-6.506	70.44
0.103 (trap1) surface,							axial vel

Kailua_min8.txt							Const Eddy Diffusivity. Farfield dispersion based on wastefield width of	173.55
m	conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
	(ppm)	(m)	(m)	(m)	(hrs)			
0.17605	554.9	174.5	25.0	0.0136	0.0	21.2	0.07	3.00E-4
0.17617	554.3	176.0	30.0	0.0335	0.0	21.2	0.07	3.00E-4
0.17619	554.0	177.4	35.0	0.0533	0.0	21.2	0.07	3.00E-4
0.17617	553.8	178.8	40.0	0.0732	0.0	21.2	0.07	3.00E-4
0.17614	553.7	180.2	45.0	0.093	0.0	21.2	0.07	3.00E-4
0.17609	553.6	181.5	50.0	0.113	0.0	21.2	0.07	3.00E-4
0.17604	553.5	182.9	55.0	0.133	0.0	21.2	0.07	3.00E-4
0.17598	553.4	184.2	60.0	0.153	0.0	21.2	0.07	3.00E-4
0.17592	553.4	185.6	65.0	0.172	0.0	21.2	0.07	3.00E-4
0.17586	553.4	186.9	70.0	0.192	0.0	21.2	0.07	3.00E-4
0.17579	553.3	188.3	75.0	0.212	0.0	21.2	0.07	3.00E-4
0.17572	553.3	189.6	80.0	0.232	0.0	21.2	0.07	3.00E-4
0.17564	553.3	190.9	85.0	0.252	0.0	21.2	0.07	3.00E-4
0.17555	553.4	192.2	90.0	0.272	0.0	21.2	0.07	3.00E-4
0.17545	553.4	193.5	95.0	0.291	0.0	21.2	0.07	3.00E-4
0.17535	553.5	194.8	100.0	0.311	0.0	21.2	0.07	3.00E-4
0.17523	553.7	196.0	105.0	0.331	0.0	21.2	0.07	3.00E-4
0.17509	553.9	197.3	110.0	0.351	0.0	21.2	0.07	3.00E-4
0.17494	554.1	198.6	115.0	0.371	0.0	21.2	0.07	3.00E-4
0.17477	554.4	199.8	120.0	0.391	0.0	21.2	0.07	3.00E-4
0.17458	554.8	201.0	125.0	0.41	0.0	21.2	0.07	3.00E-4
0.17438	555.2	202.3	130.0	0.43	0.0	21.2	0.07	3.00E-4
0.17416	555.7	203.5	135.0	0.45	0.0	21.2	0.07	3.00E-4
0.17392	556.2	204.7	140.0	0.47	0.0	21.2	0.07	3.00E-4
0.17365	556.8	205.9	145.0	0.49	0.0	21.2	0.07	3.00E-4
0.17337	557.5	207.1	150.0	0.51	0.0	21.2	0.07	3.00E-4
0.17308	558.2	208.3	155.0	0.53	0.0	21.2	0.07	3.00E-4
0.17278	558.9	209.5	160.0	0.549	0.0	21.2	0.07	3.00E-4
0.17246	559.8	210.7	165.0	0.569	0.0	21.2	0.07	3.00E-4
0.17212	560.6	211.9	170.0	0.589	0.0	21.2	0.07	3.00E-4
0.17177	561.5	213.1	175.0	0.609	0.0	21.2	0.07	3.00E-4
0.17141	562.5	214.2	180.0	0.629	0.0	21.2	0.07	3.00E-4
0.17104	563.5	215.4	185.0	0.649	0.0	21.2	0.07	3.00E-4
0.17066	564.5	216.5	190.0	0.668	0.0	21.2	0.07	3.00E-4
0.17026	565.6	217.7	195.0	0.688	0.0	21.2	0.07	3.00E-4
0.16986	566.7	218.8	200.0	0.708	0.0	21.2	0.07	3.00E-4
0.16944	567.9	220.0	205.0	0.728	0.0	21.2	0.07	3.00E-4
0.16901	569.1	221.1	210.0	0.748	0.0	21.2	0.07	3.00E-4
0.16859	570.3	222.2	215.0	0.768	0.0	21.2	0.07	3.00E-4
0.16815	571.6	223.3	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.16777	572.9	224.4	225.0	0.807	0.0	21.2	0.07	3.00E-4
0.16724	574.3	225.6	230.0	0.827	0.0	21.2	0.07	3.00E-4
0.16678	575.6	226.7	235.0	0.847	0.0	21.2	0.07	3.00E-4
0.16663	577.1	227.8	240.0	0.867	0.0	21.2	0.07	3.00E-4
0.16583	578.5	228.8	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.16535	579.9	229.9	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.16488	581.4	231.0	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.16439	582.9	232.1	260.0	0.946	0.0	21.2	0.07	3.00E-4
0.1639	584.4	233.2	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.16341	585.9	234.2	270.0	0.986	0.0	21.2	0.07	3.00E-4
0.16294	587.4	235.3	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.16244	588.9	236.3	280.0	1.026	0.0	21.2	0.07	3.00E-4
0.16195	590.5	237.4	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.16145	592.1	238.4	290.0	1.065	0.0	21.2	0.07	3.00E-4
0.16096	593.7	239.5	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.16046	595.3	240.5	300.0	1.105	0.0	21.2	0.07	3.00E-4
0.15995	597.0	241.5	305.0	1.125	0.0	21.2	0.07	3.00E-4

count: 57
 / Windows UM3.

Kailua_min8.txt
Case 47; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
Far-spd	Far-dir	Disprsn					
m/s	m deg	m/s 0.67/s2	deg	psu	C	kg/kg	s-1
0.07	0.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	2.0	0.07	90.0	35.11	26.01	0.0	0.000312
	90.0	0.0003					
0.07	4.0	0.07	90.0	35.11	26.02	0.0	0.000312
	90.0	0.0003					
0.07	6.0	0.07	90.0	35.13	26.03	0.0	0.000312
	90.0	0.0003					
0.07	8.0	0.07	90.0	35.13	26.03	0.0	0.000312
	90.0	0.0003					
0.07	10.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	12.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	14.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	16.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	18.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	35.13	26.04	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	35.13	26.03	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	35.13	26.02	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	35.12	26.02	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	35.12	25.97	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.11	25.93	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.12	25.89	0.0	0.000312
	90.0	0.0003					
0.07	Ttl-flo Temp (MGD) (C)						
	13.83	28.04					

Froude number: 5.585

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.231	67.3	1.476	-0.235	0.344;
40	105.4	0.07	10.47	45.29	2.182	-0.546	0.823;
60	105.3	0.07	14.92	30.48	3.232	-0.94	1.477;
80	105.0	0.07	20.67	20.51	4.793	-1.41	2.342;
100	104.4	0.07	27.59	13.8	7.112	-1.901	3.37;
120	103.4	0.07	35.87	9.289	10.56	-2.348	4.482;
140	102.2	0.07	46.0	6.251	15.68	-2.745	5.695;
160	100.6	0.07	58.6	4.207	23.29	-3.095	7.069;
180	98.65	0.07	74.44	2.831	34.59	-3.407	8.688;
200	96.22	0.07	94.42	1.905	51.39	-3.684	10.65;
220	93.27	0.07	119.7	1.282	76.36	-3.93	13.09;
224	92.62	0.07	125.5	1.184	82.65	-3.976	13.65; merging,
240	88.95	0.07	159.2	0.863	113.5	-4.192	16.81;
260	82.1	0.07	226.3	0.58	168.6	-4.478	22.64;

280 71.7 0.07 331.5 Kailua_min8.txt
 300 56.09 0.07 493.3 0.391 250.5 -4.77 31.32;
 0.0207 302 54.15 0.07 513.3 0.263 372.2 -5.067 44.23; axial vel
 reached 320 32.63 0.07 734.4 0.253 387.2 -5.097 45.83; max dilution
 327 21.88 0.07 842.6 0.177 553.0 -5.368 63.48;
 0.0905 (trap1) surface, 327 21.88 0.07 842.6 0.154 635.3 -5.474 72.24; axial vel
 Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 174.21
 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)	(m ^{0.67} /s ²)
0.15323	637.6	175.0	25.0	0.0116	0.0	21.2	0.07	3.00E-4
0.15335	636.8	176.5	30.0	0.0314	0.0	21.2	0.07	3.00E-4
0.15337	636.4	177.9	35.0	0.0513	0.0	21.2	0.07	3.00E-4
0.15336	636.2	179.3	40.0	0.0711	0.0	21.2	0.07	3.00E-4
0.15333	636.0	180.7	45.0	0.0909	0.0	21.2	0.07	3.00E-4
0.15329	635.9	182.0	50.0	0.111	0.0	21.2	0.07	3.00E-4
0.15324	635.8	183.4	55.0	0.131	0.0	21.2	0.07	3.00E-4
0.15319	635.7	184.8	60.0	0.15	0.0	21.2	0.07	3.00E-4
0.15314	635.7	186.1	65.0	0.17	0.0	21.2	0.07	3.00E-4
0.15309	635.6	187.5	70.0	0.19	0.0	21.2	0.07	3.00E-4
0.15303	635.6	188.8	75.0	0.21	0.0	21.2	0.07	3.00E-4
0.15297	635.6	190.1	80.0	0.23	0.0	21.2	0.07	3.00E-4
0.1529	635.6	191.4	85.0	0.25	0.0	21.2	0.07	3.00E-4
0.15282	635.6	192.7	90.0	0.27	0.0	21.2	0.07	3.00E-4
0.15274	635.7	194.0	95.0	0.289	0.0	21.2	0.07	3.00E-4
0.15265	635.8	195.3	100.0	0.309	0.0	21.2	0.07	3.00E-4
0.15254	636.0	196.6	105.0	0.329	0.0	21.2	0.07	3.00E-4
0.15243	636.2	197.9	110.0	0.349	0.0	21.2	0.07	3.00E-4
0.1523	636.4	199.1	115.0	0.369	0.0	21.2	0.07	3.00E-4
0.15215	636.8	200.4	120.0	0.389	0.0	21.2	0.07	3.00E-4
0.15199	637.2	201.6	125.0	0.408	0.0	21.2	0.07	3.00E-4
0.15182	637.6	202.8	130.0	0.428	0.0	21.2	0.07	3.00E-4
0.15163	638.2	204.1	135.0	0.448	0.0	21.2	0.07	3.00E-4
0.15142	638.8	205.3	140.0	0.468	0.0	21.2	0.07	3.00E-4
0.15119	639.5	206.5	145.0	0.488	0.0	21.2	0.07	3.00E-4
0.15096	640.2	207.7	150.0	0.508	0.0	21.2	0.07	3.00E-4
0.1507	641.0	208.9	155.0	0.527	0.0	21.2	0.07	3.00E-4
0.15044	641.9	210.1	160.0	0.547	0.0	21.2	0.07	3.00E-4
0.15017	642.8	211.3	165.0	0.567	0.0	21.2	0.07	3.00E-4
0.14988	643.8	212.5	170.0	0.587	0.0	21.2	0.07	3.00E-4
0.14958	644.8	213.7	175.0	0.607	0.0	21.2	0.07	3.00E-4
0.14927	645.9	214.8	180.0	0.627	0.0	21.2	0.07	3.00E-4
0.14894	647.1	216.0	185.0	0.647	0.0	21.2	0.07	3.00E-4
0.14861	648.2	217.1	190.0	0.666	0.0	21.2	0.07	3.00E-4
0.14827	649.5	218.3	195.0	0.686	0.0	21.2	0.07	3.00E-4
0.14792	650.8	219.4	200.0	0.706	0.0	21.2	0.07	3.00E-4
0.14756	652.1	220.6	205.0	0.726	0.0	21.2	0.07	3.00E-4
0.14719	653.5	221.7	210.0	0.746	0.0	21.2	0.07	3.00E-4
0.14682	654.9	222.8	215.0	0.766	0.0	21.2	0.07	3.00E-4
0.14644	656.3	224.0	220.0	0.785	0.0	21.2	0.07	3.00E-4
0.14605	657.8	225.1	225.0	0.805	0.0	21.2	0.07	3.00E-4
0.14566	659.3	226.2	230.0	0.825	0.0	21.2	0.07	3.00E-4
0.14526	660.9	227.3	235.0	0.845	0.0	21.2	0.07	3.00E-4
0.14484	662.5	228.4	240.0	0.865	0.0	21.2	0.07	3.00E-4
0.14443	664.1	229.5	245.0	0.885	0.0	21.2	0.07	3.00E-4
0.14402	665.8	230.6	250.0	0.904	0.0	21.2	0.07	3.00E-4
0.14361	667.4	231.6	255.0	0.924	0.0	21.2	0.07	3.00E-4
0.14319	669.1	232.7	260.0	0.944	0.0	21.2	0.07	3.00E-4
0.14276	670.9	233.8	265.0	0.964	0.0	21.2	0.07	3.00E-4
0.14234	672.6	234.9	270.0	0.984	0.0	21.2	0.07	3.00E-4
0.14192	674.3	235.9	275.0	1.004	0.0	21.2	0.07	3.00E-4

Kailua_min8.txt

0.1415	676.1	237.0	280.0	1.023	0.0	21.2	0.07	3.00E-4
0.14107	677.9	238.0	285.0	1.043	0.0	21.2	0.07	3.00E-4
0.14064	679.7	239.1	290.0	1.063	0.0	21.2	0.07	3.00E-4
0.14021	681.5	240.1	295.0	1.083	0.0	21.2	0.07	3.00E-4
0.13977	683.4	241.2	300.0	1.103	0.0	21.2	0.07	3.00E-4
0.13934	685.3	242.2	305.0	1.123	0.0	21.2	0.07	3.00E-4

count: 57
/ Windows UM3.

Case 48; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s ^{0.67/s²}	Disprsn deg	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	90.0	0.07 0.0003	90.0	35.22	23.7	0.0	0.000312
0.07	2.0	90.0	0.07 0.0003	90.0	35.23	23.69	0.0	0.000312
0.07	4.0	90.0	0.07 0.0003	90.0	35.23	23.71	0.0	0.000312
0.07	6.0	90.0	0.07 0.0003	90.0	35.24	23.72	0.0	0.000312
0.07	8.0	90.0	0.07 0.0003	90.0	35.24	23.74	0.0	0.000312
0.07	10.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	12.0	90.0	0.07 0.0003	90.0	35.24	23.74	0.0	0.000312
0.07	14.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	16.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	18.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	20.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	22.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	24.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	26.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	28.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	30.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	32.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	33.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	34.0	90.0	0.07 0.0003	90.0	35.24	23.73	0.0	0.000312
	Ttl-flo (MGD)	Temp (C)						
	18.04	28.04						

Froude number: 7.161

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.255	67.3	1.475	-0.245	0.356;
40	105.4	0.07	10.57	45.29	2.181	-0.577	0.859;
60	105.3	0.07	15.24	30.48	3.231	-1.011	1.556;
80	105.1	0.07	21.55	20.51	4.79	-1.551	2.498;
100	104.5	0.07	29.48	13.8	7.107	-2.177	3.714;
120	103.6	0.07	38.95	9.289	10.55	-2.792	5.091;

Kailua_min8.txt							
140	102.3	0.07	50.35	6.251	15.67	-3.345	6.573;
160	100.5	0.07	64.41	4.207	23.27	-3.834	8.207;
180	98.24	0.07	81.98	2.831	34.57	-4.268	10.08;
200	95.44	0.07	104.1	1.905	51.35	-4.654	12.31;
217	92.56	0.07	127.3	1.36	71.9	-4.949	14.58; merging,
220	91.91	0.07	132.2	1.282	76.3	-5.006	15.1;
240	86.05	0.07	180.7	0.863	113.4	-5.413	19.66;
260	76.97	0.07	260.2	0.58	168.4	-5.837	26.43;
280	63.14	0.07	382.4	0.391	250.3	-6.268	36.37;
288	55.8	0.07	447.3	0.333	293.2	-6.441	41.54; axial vel
0.0213 max dilution reached							
300	42.26	0.07	566.6	0.263	371.9	-6.701	50.95;
316	18.3	0.07	780.8	0.191	510.5	-7.049	67.44; axial vel
0.113 (trap1) surface, Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 172.64 m							
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m0.67/s2)
(ppm)	(m)	(m)	(m)	(hrs)			
0.19062	512.1	173.9	25.0	0.0172	0.0	21.2	0.07 3.00E-4
0.19072	511.6	175.3	30.0	0.037	0.0	21.2	0.07 3.00E-4
0.19073	511.4	176.7	35.0	0.0569	0.0	21.2	0.07 3.00E-4
0.19071	511.2	178.1	40.0	0.0767	0.0	21.2	0.07 3.00E-4
0.19067	511.1	179.5	45.0	0.0966	0.0	21.2	0.07 3.00E-4
0.19062	511.0	180.8	50.0	0.116	0.0	21.2	0.07 3.00E-4
0.19056	511.0	182.2	55.0	0.136	0.0	21.2	0.07 3.00E-4
0.1905	510.9	183.6	60.0	0.156	0.0	21.2	0.07 3.00E-4
0.19043	510.9	184.9	65.0	0.176	0.0	21.2	0.07 3.00E-4
0.19036	510.8	186.2	70.0	0.196	0.0	21.2	0.07 3.00E-4
0.19029	510.8	187.6	75.0	0.216	0.0	21.2	0.07 3.00E-4
0.19021	510.8	188.9	80.0	0.235	0.0	21.2	0.07 3.00E-4
0.19012	510.8	190.2	85.0	0.255	0.0	21.2	0.07 3.00E-4
0.19002	510.8	191.5	90.0	0.275	0.0	21.2	0.07 3.00E-4
0.18992	510.9	192.8	95.0	0.295	0.0	21.2	0.07 3.00E-4
0.1898	511.0	194.0	100.0	0.315	0.0	21.2	0.07 3.00E-4
0.18966	511.2	195.3	105.0	0.335	0.0	21.2	0.07 3.00E-4
0.18951	511.3	196.6	110.0	0.354	0.0	21.2	0.07 3.00E-4
0.18934	511.6	197.8	115.0	0.374	0.0	21.2	0.07 3.00E-4
0.18915	511.9	199.1	120.0	0.394	0.0	21.2	0.07 3.00E-4
0.18895	512.2	200.3	125.0	0.414	0.0	21.2	0.07 3.00E-4
0.18872	512.6	201.5	130.0	0.434	0.0	21.2	0.07 3.00E-4
0.18847	513.1	202.8	135.0	0.454	0.0	21.2	0.07 3.00E-4
0.18819	513.6	204.0	140.0	0.474	0.0	21.2	0.07 3.00E-4
0.18791	514.2	205.2	145.0	0.493	0.0	21.2	0.07 3.00E-4
0.18761	514.8	206.4	150.0	0.513	0.0	21.2	0.07 3.00E-4
0.18729	515.5	207.6	155.0	0.533	0.0	21.2	0.07 3.00E-4
0.18695	516.2	208.8	160.0	0.553	0.0	21.2	0.07 3.00E-4
0.1866	517.0	209.9	165.0	0.573	0.0	21.2	0.07 3.00E-4
0.18623	517.8	211.1	170.0	0.593	0.0	21.2	0.07 3.00E-4
0.18585	518.6	212.3	175.0	0.612	0.0	21.2	0.07 3.00E-4
0.18546	519.5	213.4	180.0	0.632	0.0	21.2	0.07 3.00E-4
0.18504	520.5	214.6	185.0	0.652	0.0	21.2	0.07 3.00E-4
0.18463	521.4	215.7	190.0	0.672	0.0	21.2	0.07 3.00E-4
0.1842	522.5	216.9	195.0	0.692	0.0	21.2	0.07 3.00E-4
0.18375	523.5	218.0	200.0	0.712	0.0	21.2	0.07 3.00E-4
0.1833	524.6	219.2	205.0	0.731	0.0	21.2	0.07 3.00E-4
0.18284	525.7	220.3	210.0	0.751	0.0	21.2	0.07 3.00E-4
0.18237	526.9	221.4	215.0	0.771	0.0	21.2	0.07 3.00E-4
0.18189	528.1	222.5	220.0	0.791	0.0	21.2	0.07 3.00E-4
0.1814	529.3	223.6	225.0	0.811	0.0	21.2	0.07 3.00E-4
0.1809	530.5	224.7	230.0	0.831	0.0	21.2	0.07 3.00E-4
0.1804	531.8	225.8	235.0	0.851	0.0	21.2	0.07 3.00E-4
0.17987	533.1	226.9	240.0	0.87	0.0	21.2	0.07 3.00E-4
0.17936	534.5	228.0	245.0	0.89	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.17885	535.8	229.1	250.0	0.91	0.0	21.2	0.07	3.00E-4
0.17832	537.2	230.2	255.0	0.93	0.0	21.2	0.07	3.00E-4
0.1778	538.5	231.2	260.0	0.95	0.0	21.2	0.07	3.00E-4
0.17727	540.0	232.3	265.0	0.97	0.0	21.2	0.07	3.00E-4
0.17675	541.3	233.4	270.0	0.989	0.0	21.2	0.07	3.00E-4
0.17622	542.8	234.4	275.0	1.009	0.0	21.2	0.07	3.00E-4
0.17568	544.2	235.5	280.0	1.029	0.0	21.2	0.07	3.00E-4
0.17514	545.7	236.5	285.0	1.049	0.0	21.2	0.07	3.00E-4
0.1746	547.1	237.6	290.0	1.069	0.0	21.2	0.07	3.00E-4
0.17406	548.6	238.6	295.0	1.089	0.0	21.2	0.07	3.00E-4
0.17352	550.1	239.6	300.0	1.108	0.0	21.2	0.07	3.00E-4
0.17298	551.7	240.7	305.0	1.128	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 49; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal	Amb-tem	Amb-pol	Solar rad	
					deg	psu	c	kg/kg	s-1
0.07	0.0	0.07	0.07	0.0003	90.0	35.22	23.7	0.0	0.000312
0.07	2.0	0.07	0.07	0.0003	90.0	35.23	23.69	0.0	0.000312
0.07	4.0	0.07	0.07	0.0003	90.0	35.23	23.71	0.0	0.000312
0.07	6.0	0.07	0.07	0.0003	90.0	35.24	23.72	0.0	0.000312
0.07	8.0	0.07	0.07	0.0003	90.0	35.24	23.74	0.0	0.000312
0.07	10.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	12.0	0.07	0.07	0.0003	90.0	35.24	23.74	0.0	0.000312
0.07	14.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	16.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	18.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	20.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	22.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	24.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	26.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	28.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	30.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	32.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	33.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	34.0	0.07	0.07	0.0003	90.0	35.24	23.73	0.0	0.000312
Ttl-flo Temp (MGD) (C)									
	19.01	28.04							
Froude number:		7.546							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)		
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;		

Kailua_min8.txt							
20	105.4	0.07	7.26	67.3	1.475	-0.247	0.358;
40	105.4	0.07	10.58	45.29	2.181	-0.582	0.865;
60	105.3	0.07	15.29	30.48	3.231	-1.023	1.57;
80	105.1	0.07	21.69	20.51	4.79	-1.577	2.526;
100	104.6	0.07	29.83	13.8	7.107	-2.228	3.774;
120	103.6	0.07	39.59	9.289	10.55	-2.882	5.213;
140	102.3	0.07	51.3	6.251	15.67	-3.474	6.761;
160	100.5	0.07	65.7	4.207	23.27	-3.998	8.459;
180	98.19	0.07	83.67	2.831	34.57	-4.463	10.4;
200	95.32	0.07	106.3	1.905	51.35	-4.876	12.69;
216	92.56	0.07	128.5	1.388	70.49	-5.173	14.87; merging,
220	91.64	0.07	135.4	1.282	76.3	-5.257	15.6;
240	85.45	0.07	186.0	0.863	113.4	-5.701	20.35;
260	75.87	0.07	268.3	0.58	168.4	-6.162	27.36;
280	61.28	0.07	394.8	0.39	250.3	-6.629	37.62; axial vel
0.0174							
286	55.59	0.07	444.0	0.347	281.9	-6.77	41.54; max dilution
reached							
300	39.25	0.07	585.3	0.263	371.9	-7.099	52.64;
314	17.58	0.07	775.2	0.199	490.7	-7.429	67.2; axial vel
0.119 (trap1) surface,							
Const Eddy Diffusivity.							
m							
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
(ppm)		(m)	(m)	(hrs)			
0.19833	492.3	173.7	25.0	0.0174	0.0	21.2	0.07 3.00E-4
0.19843	491.8	175.2	30.0	0.0373	0.0	21.2	0.07 3.00E-4
0.19844	491.5	176.6	35.0	0.0571	0.0	21.2	0.07 3.00E-4
0.19842	491.4	178.0	40.0	0.077	0.0	21.2	0.07 3.00E-4
0.19837	491.3	179.3	45.0	0.0968	0.0	21.2	0.07 3.00E-4
0.19832	491.2	180.7	50.0	0.117	0.0	21.2	0.07 3.00E-4
0.19826	491.1	182.1	55.0	0.136	0.0	21.2	0.07 3.00E-4
0.1982	491.1	183.4	60.0	0.156	0.0	21.2	0.07 3.00E-4
0.19813	491.0	184.8	65.0	0.176	0.0	21.2	0.07 3.00E-4
0.19805	491.0	186.1	70.0	0.196	0.0	21.2	0.07 3.00E-4
0.19798	491.0	187.4	75.0	0.216	0.0	21.2	0.07 3.00E-4
0.19789	491.0	188.7	80.0	0.236	0.0	21.2	0.07 3.00E-4
0.1978	491.0	190.0	85.0	0.256	0.0	21.2	0.07 3.00E-4
0.1977	491.0	191.3	90.0	0.275	0.0	21.2	0.07 3.00E-4
0.19759	491.1	192.6	95.0	0.295	0.0	21.2	0.07 3.00E-4
0.19747	491.2	193.9	100.0	0.315	0.0	21.2	0.07 3.00E-4
0.19732	491.3	195.2	105.0	0.335	0.0	21.2	0.07 3.00E-4
0.19717	491.5	196.4	110.0	0.355	0.0	21.2	0.07 3.00E-4
0.19699	491.7	197.7	115.0	0.375	0.0	21.2	0.07 3.00E-4
0.1968	492.0	198.9	120.0	0.394	0.0	21.2	0.07 3.00E-4
0.19658	492.3	200.2	125.0	0.414	0.0	21.2	0.07 3.00E-4
0.19634	492.7	201.4	130.0	0.434	0.0	21.2	0.07 3.00E-4
0.19609	493.2	202.6	135.0	0.454	0.0	21.2	0.07 3.00E-4
0.19579	493.7	203.8	140.0	0.474	0.0	21.2	0.07 3.00E-4
0.1955	494.2	205.0	145.0	0.494	0.0	21.2	0.07 3.00E-4
0.19519	494.8	206.2	150.0	0.513	0.0	21.2	0.07 3.00E-4
0.19485	495.5	207.4	155.0	0.533	0.0	21.2	0.07 3.00E-4
0.1945	496.2	208.6	160.0	0.553	0.0	21.2	0.07 3.00E-4
0.19414	496.9	209.8	165.0	0.573	0.0	21.2	0.07 3.00E-4
0.19375	497.7	211.0	170.0	0.593	0.0	21.2	0.07 3.00E-4
0.19335	498.5	212.1	175.0	0.613	0.0	21.2	0.07 3.00E-4
0.19294	499.4	213.3	180.0	0.633	0.0	21.2	0.07 3.00E-4
0.19251	500.3	214.5	185.0	0.652	0.0	21.2	0.07 3.00E-4
0.19208	501.2	215.6	190.0	0.672	0.0	21.2	0.07 3.00E-4
0.19163	502.2	216.7	195.0	0.692	0.0	21.2	0.07 3.00E-4
0.19117	503.2	217.9	200.0	0.712	0.0	21.2	0.07 3.00E-4
0.19069	504.3	219.0	205.0	0.732	0.0	21.2	0.07 3.00E-4
0.19021	505.3	220.1	210.0	0.752	0.0	21.2	0.07 3.00E-4

					Kailua_min8.txt			
0.18972	506.5	221.3	215.0	0.771	0.0	21.2	0.07	3.00E-4
0.18922	507.6	222.4	220.0	0.791	0.0	21.2	0.07	3.00E-4
0.18871	508.8	223.5	225.0	0.811	0.0	21.2	0.07	3.00E-4
0.1882	510.0	224.6	230.0	0.831	0.0	21.2	0.07	3.00E-4
0.18767	511.2	225.7	235.0	0.851	0.0	21.2	0.07	3.00E-4
0.18713	512.5	226.8	240.0	0.871	0.0	21.2	0.07	3.00E-4
0.1866	513.8	227.9	245.0	0.89	0.0	21.2	0.07	3.00E-4
0.18606	515.0	228.9	250.0	0.91	0.0	21.2	0.07	3.00E-4
0.18551	516.4	230.0	255.0	0.93	0.0	21.2	0.07	3.00E-4
0.18497	517.7	231.1	260.0	0.95	0.0	21.2	0.07	3.00E-4
0.18441	519.0	232.1	265.0	0.97	0.0	21.2	0.07	3.00E-4
0.18387	520.4	233.2	270.0	0.99	0.0	21.2	0.07	3.00E-4
0.18332	521.7	234.3	275.0	1.009	0.0	21.2	0.07	3.00E-4
0.18276	523.1	235.3	280.0	1.029	0.0	21.2	0.07	3.00E-4
0.1822	524.5	236.4	285.0	1.049	0.0	21.2	0.07	3.00E-4
0.18164	526.0	237.4	290.0	1.069	0.0	21.2	0.07	3.00E-4
0.18108	527.4	238.4	295.0	1.089	0.0	21.2	0.07	3.00E-4
0.18051	528.8	239.5	300.0	1.109	0.0	21.2	0.07	3.00E-4
0.17995	530.3	240.5	305.0	1.129	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 50; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg	Amb-dir Disprsn m0.67/s2	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	0.07	90.0	35.22	23.7	0.0	0.000312
0.07	2.0	0.07	90.0	35.23	23.69	0.0	0.000312
0.07	4.0	0.07	90.0	35.23	23.71	0.0	0.000312
0.07	6.0	0.07	90.0	35.24	23.72	0.0	0.000312
0.07	8.0	0.07	90.0	35.24	23.74	0.0	0.000312
0.07	10.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	12.0	0.07	90.0	35.24	23.74	0.0	0.000312
0.07	14.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	16.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	18.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	20.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	22.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	24.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	26.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	28.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	30.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	32.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	33.0	0.07	90.0	35.24	23.73	0.0	0.000312

Kailua_min8.txt

Tt1-flo Temp
(MGD) (C)
14.1 28.04

Froude number: 5.597

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.232	67.3	1.475	-0.236	0.345
40	105.4	0.07	10.47	45.29	2.181	-0.548	0.826
60	105.3	0.07	14.93	30.48	3.231	-0.944	1.482
80	105.0	0.07	20.69	20.51	4.79	-1.419	2.35
100	104.3	0.07	27.62	13.8	7.107	-1.915	3.384
120	103.4	0.07	35.89	9.289	10.55	-2.368	4.5
140	102.2	0.07	46.01	6.251	15.67	-2.769	5.715
160	100.5	0.07	58.61	4.207	23.27	-3.124	7.089
180	98.53	0.07	74.43	2.831	34.57	-3.439	8.704
200	96.04	0.07	94.38	1.905	51.35	-3.72	10.66
220	93.02	0.07	119.5	1.282	76.3	-3.969	13.09
224	92.35	0.07	125.3	1.184	82.59	-4.015	13.65; merging,
240	88.58	0.07	158.2	0.863	113.4	-4.232	16.76
260	81.56	0.07	224.9	0.58	168.4	-4.518	22.49
280	70.88	0.07	328.5	0.391	250.3	-4.811	31.04
300	54.75	0.07	485.3	0.263	371.9	-5.108	43.69; axial vel
0.0216							
301	53.76	0.07	494.9	0.258	379.3	-5.123	44.46; max dilution
reached							
320	30.62	0.07	722.2	0.177	552.6	-5.406	62.36
327	19.61	0.07	830.8	0.154	634.8	-5.51	70.85; axial vel

0.103 (trap1) surface,

Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 173.91 m

conc (ppm)	dilutn (%)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)	(m ^{0.67} /s ²)
0.15325	637.0	174.9	25.0	0.0132	0.0	21.2	0.07	3.00E-4
0.15336	636.3	176.3	30.0	0.0331	0.0	21.2	0.07	3.00E-4
0.15338	635.9	177.7	35.0	0.0529	0.0	21.2	0.07	3.00E-4
0.15336	635.7	179.1	40.0	0.0728	0.0	21.2	0.07	3.00E-4
0.15333	635.5	180.5	45.0	0.0926	0.0	21.2	0.07	3.00E-4
0.15329	635.4	181.9	50.0	0.112	0.0	21.2	0.07	3.00E-4
0.15325	635.3	183.2	55.0	0.132	0.0	21.2	0.07	3.00E-4
0.1532	635.3	184.6	60.0	0.152	0.0	21.2	0.07	3.00E-4
0.15314	635.2	185.9	65.0	0.172	0.0	21.2	0.07	3.00E-4
0.15309	635.1	187.3	70.0	0.192	0.0	21.2	0.07	3.00E-4
0.15303	635.1	188.6	75.0	0.212	0.0	21.2	0.07	3.00E-4
0.15297	635.1	189.9	80.0	0.232	0.0	21.2	0.07	3.00E-4
0.1529	635.1	191.2	85.0	0.251	0.0	21.2	0.07	3.00E-4
0.15282	635.1	192.5	90.0	0.271	0.0	21.2	0.07	3.00E-4
0.15274	635.2	193.8	95.0	0.291	0.0	21.2	0.07	3.00E-4
0.15265	635.3	195.1	100.0	0.311	0.0	21.2	0.07	3.00E-4
0.15254	635.5	196.4	105.0	0.331	0.0	21.2	0.07	3.00E-4
0.15242	635.7	197.6	110.0	0.351	0.0	21.2	0.07	3.00E-4
0.15229	636.0	198.9	115.0	0.37	0.0	21.2	0.07	3.00E-4
0.15215	636.3	200.2	120.0	0.39	0.0	21.2	0.07	3.00E-4
0.15198	636.7	201.4	125.0	0.41	0.0	21.2	0.07	3.00E-4
0.15181	637.2	202.6	130.0	0.43	0.0	21.2	0.07	3.00E-4
0.15162	637.8	203.9	135.0	0.45	0.0	21.2	0.07	3.00E-4
0.15141	638.4	205.1	140.0	0.47	0.0	21.2	0.07	3.00E-4
0.15117	639.1	206.3	145.0	0.489	0.0	21.2	0.07	3.00E-4
0.15094	639.8	207.5	150.0	0.509	0.0	21.2	0.07	3.00E-4
0.15068	640.6	208.7	155.0	0.529	0.0	21.2	0.07	3.00E-4
0.15042	641.5	209.9	160.0	0.549	0.0	21.2	0.07	3.00E-4
0.15014	642.4	211.1	165.0	0.569	0.0	21.2	0.07	3.00E-4
0.14985	643.4	212.3	170.0	0.589	0.0	21.2	0.07	3.00E-4

Kailua_min8.txt

0.14955	644.5	213.4	175.0	0.608	0.0	21.2	0.07	3.00E-4
0.14924	645.6	214.6	180.0	0.628	0.0	21.2	0.07	3.00E-4
0.14891	646.7	215.8	185.0	0.648	0.0	21.2	0.07	3.00E-4
0.14858	647.9	216.9	190.0	0.668	0.0	21.2	0.07	3.00E-4
0.14824	649.1	218.1	195.0	0.688	0.0	21.2	0.07	3.00E-4
0.14789	650.4	219.2	200.0	0.708	0.0	21.2	0.07	3.00E-4
0.14752	651.8	220.3	205.0	0.728	0.0	21.2	0.07	3.00E-4
0.14715	653.1	221.5	210.0	0.747	0.0	21.2	0.07	3.00E-4
0.14678	654.5	222.6	215.0	0.767	0.0	21.2	0.07	3.00E-4
0.1464	656.0	223.7	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.14601	657.5	224.8	225.0	0.807	0.0	21.2	0.07	3.00E-4
0.14562	659.0	225.9	230.0	0.827	0.0	21.2	0.07	3.00E-4
0.14522	660.6	227.0	235.0	0.847	0.0	21.2	0.07	3.00E-4
0.14448	662.2	228.1	240.0	0.866	0.0	21.2	0.07	3.00E-4
0.14439	663.8	229.2	245.0	0.886	0.0	21.2	0.07	3.00E-4
0.14398	665.5	230.3	250.0	0.906	0.0	21.2	0.07	3.00E-4
0.14356	667.2	231.4	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.14314	668.9	232.5	260.0	0.946	0.0	21.2	0.07	3.00E-4
0.14272	670.6	233.5	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.14229	672.4	234.6	270.0	0.985	0.0	21.2	0.07	3.00E-4
0.14188	674.1	235.7	275.0	1.005	0.0	21.2	0.07	3.00E-4
0.14145	675.8	236.7	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.14102	677.6	237.8	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.14059	679.5	238.8	290.0	1.065	0.0	21.2	0.07	3.00E-4
0.14016	681.3	239.9	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.13972	683.2	240.9	300.0	1.105	0.0	21.2	0.07	3.00E-4
0.13929	685.0	241.9	305.0	1.124	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 51; ambient file C:\Plumes\kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	solar	rad
m/s	Far-dir	Disprsn	deg	psu	c	kg/kg		s-1
m/s	deg	m/s	deg					
0.07	0.0	0.07	90.0	35.22	23.7	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.23	23.69	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.23	23.71	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.24	23.72	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.24	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.24	23.73	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.24	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.24	23.73	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.24	23.73	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.24	23.73	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.24	23.73	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.24	23.73	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.24	23.73	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.24	23.73	0.0	0.000312	
	90.0	0.0003						

Kailua_min8.txt

0.07	28.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
26.91	28.04						
Froude number:	10.68						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.282	67.3	1.475	-0.256	0.37
40	105.4	0.07	10.67	45.29	2.181	-0.614	0.902
60	105.4	0.07	15.56	30.48	3.231	-1.099	1.653
80	105.2	0.07	22.45	20.51	4.79	-1.735	2.696
100	104.9	0.07	31.78	13.8	7.107	-2.528	4.104
120	104.1	0.07	43.56	9.289	10.55	-3.452	5.928
140	102.7	0.07	57.69	6.251	15.67	-4.366	8.003
160	100.7	0.07	74.7	4.207	23.27	-5.191	10.24
180	98.05	0.07	95.65	2.831	34.57	-5.922	12.7
200	94.7	0.07	121.8	1.905	51.35	-6.57	15.51
207	93.34	0.07	132.5	1.658	58.99	-6.78	16.6
220	89.47	0.07	159.1	1.282	76.3	-7.267	19.58
240	80.7	0.07	224.3	0.863	113.4	-8.044	25.77
260	67.16	0.07	327.6	0.58	168.4	-8.83	34.56
268	59.92	0.07	383.0	0.495	197.4	-9.147	39.06
0.0195	max dilution reached						axial vel
280	46.51	0.07	485.2	0.39	250.3	-9.622	47.17
300	15.32	0.07	723.9	0.263	371.9	-10.42	65.48
0.145							axial vel
301	13.39	0.07	738.1	0.257	379.3	-10.46	66.59
(trap1)surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						171.55
m	conc	dilutn	width	distnce	time		
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr) (m/s) (m ^{0.67} /s ²)
0.2566	380.5	172.8	25.0	0.0177	0.0	21.2	0.07 3.00E-4
0.25673	380.2	174.2	30.0	0.0375	0.0	21.2	0.07 3.00E-4
0.25674	380.0	175.6	35.0	0.0574	0.0	21.2	0.07 3.00E-4
0.25671	379.9	177.0	40.0	0.0772	0.0	21.2	0.07 3.00E-4
0.25665	379.8	178.4	45.0	0.097	0.0	21.2	0.07 3.00E-4
0.25658	379.7	179.8	50.0	0.117	0.0	21.2	0.07 3.00E-4
0.25651	379.7	181.1	55.0	0.137	0.0	21.2	0.07 3.00E-4
0.25642	379.6	182.5	60.0	0.157	0.0	21.2	0.07 3.00E-4
0.25633	379.6	183.8	65.0	0.176	0.0	21.2	0.07 3.00E-4
0.25624	379.6	185.1	70.0	0.196	0.0	21.2	0.07 3.00E-4
0.25614	379.5	186.5	75.0	0.216	0.0	21.2	0.07 3.00E-4
0.25603	379.5	187.8	80.0	0.236	0.0	21.2	0.07 3.00E-4
0.25591	379.5	189.1	85.0	0.256	0.0	21.2	0.07 3.00E-4
0.25578	379.6	190.4	90.0	0.276	0.0	21.2	0.07 3.00E-4
0.25563	379.6	191.7	95.0	0.295	0.0	21.2	0.07 3.00E-4
0.25547	379.7	192.9	100.0	0.315	0.0	21.2	0.07 3.00E-4
0.25529	379.8	194.2	105.0	0.335	0.0	21.2	0.07 3.00E-4
0.25508	380.0	195.4	110.0	0.355	0.0	21.2	0.07 3.00E-4
0.25485	380.1	196.7	115.0	0.375	0.0	21.2	0.07 3.00E-4
0.25459	380.4	197.9	120.0	0.395	0.0	21.2	0.07 3.00E-4
0.25431	380.6	199.2	125.0	0.414	0.0	21.2	0.07 3.00E-4
0.254	380.9	200.4	130.0	0.434	0.0	21.2	0.07 3.00E-4
0.25367	381.3	201.6	135.0	0.454	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt							
0.25329	381.7	202.8	140.0	0.474	0.0	21.2	0.07 3.00E-4
0.2529	382.1	204.0	145.0	0.494	0.0	21.2	0.07 3.00E-4
0.25249	382.6	205.2	150.0	0.514	0.0	21.2	0.07 3.00E-4
0.25206	383.1	206.4	155.0	0.534	0.0	21.2	0.07 3.00E-4
0.2516	383.6	207.6	160.0	0.553	0.0	21.2	0.07 3.00E-4
0.25112	384.2	208.8	165.0	0.573	0.0	21.2	0.07 3.00E-4
0.25062	384.8	210.0	170.0	0.593	0.0	21.2	0.07 3.00E-4
0.2501	385.5	211.1	175.0	0.613	0.0	21.2	0.07 3.00E-4
0.24956	386.1	212.3	180.0	0.633	0.0	21.2	0.07 3.00E-4
0.24901	386.8	213.4	185.0	0.653	0.0	21.2	0.07 3.00E-4
0.24844	387.6	214.6	190.0	0.672	0.0	21.2	0.07 3.00E-4
0.24786	388.3	215.7	195.0	0.692	0.0	21.2	0.07 3.00E-4
0.24725	389.1	216.9	200.0	0.712	0.0	21.2	0.07 3.00E-4
0.24663	389.9	218.0	205.0	0.732	0.0	21.2	0.07 3.00E-4
0.24601	390.8	219.1	210.0	0.752	0.0	21.2	0.07 3.00E-4
0.24538	391.6	220.2	215.0	0.772	0.0	21.2	0.07 3.00E-4
0.24472	392.5	221.3	220.0	0.791	0.0	21.2	0.07 3.00E-4
0.24406	393.5	222.4	225.0	0.811	0.0	21.2	0.07 3.00E-4
0.24339	394.4	223.5	230.0	0.831	0.0	21.2	0.07 3.00E-4
0.24268	395.4	224.6	235.0	0.851	0.0	21.2	0.07 3.00E-4
0.242	396.3	225.7	240.0	0.871	0.0	21.2	0.07 3.00E-4
0.24131	397.3	226.8	245.0	0.891	0.0	21.2	0.07 3.00E-4
0.24061	398.3	227.9	250.0	0.911	0.0	21.2	0.07 3.00E-4
0.2399	399.4	228.9	255.0	0.93	0.0	21.2	0.07 3.00E-4
0.23919	400.4	230.0	260.0	0.95	0.0	21.2	0.07 3.00E-4
0.23847	401.4	231.1	265.0	0.97	0.0	21.2	0.07 3.00E-4
0.23777	402.5	232.1	270.0	0.99	0.0	21.2	0.07 3.00E-4
0.23705	403.5	233.2	275.0	1.01	0.0	21.2	0.07 3.00E-4
0.23633	404.6	234.2	280.0	1.03	0.0	21.2	0.07 3.00E-4
0.2356	405.7	235.3	285.0	1.049	0.0	21.2	0.07 3.00E-4
0.23487	406.8	236.3	290.0	1.069	0.0	21.2	0.07 3.00E-4
0.23414	407.9	237.4	295.0	1.089	0.0	21.2	0.07 3.00E-4
0.2334	409.1	238.4	300.0	1.109	0.0	21.2	0.07 3.00E-4
0.23267	410.2	239.4	305.0	1.129	0.0	21.2	0.07 3.00E-4

count: 57

/ Windows UM3.

Case 52; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg	Amb-dir Disprsn m0.67/s2	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
	0.0	0.07	90.0	35.07	24.8	0.0	0.000312
0.07	90.0	0.0003					
0.07	2.0	0.07	90.0	35.07	24.81	0.0	0.000312
0.07	90.0	0.0003					
0.07	4.0	0.07	90.0	35.07	24.81	0.0	0.000312
0.07	90.0	0.0003					
0.07	6.0	0.07	90.0	35.07	24.81	0.0	0.000312
0.07	90.0	0.0003					
0.07	8.0	0.07	90.0	35.07	24.8	0.0	0.000312
0.07	90.0	0.0003					
0.07	10.0	0.07	90.0	35.07	24.8	0.0	0.000312
0.07	90.0	0.0003					
0.07	12.0	0.07	90.0	35.07	24.8	0.0	0.000312
0.07	90.0	0.0003					
0.07	14.0	0.07	90.0	35.07	24.8	0.0	0.000312
0.07	90.0	0.0003					
0.07	16.0	0.07	90.0	35.07	24.8	0.0	0.000312
0.07	90.0	0.0003					
0.07	18.0	0.07	90.0	35.07	24.8	0.0	0.000312
0.07	90.0	0.0003					
0.07	20.0	0.07	90.0	35.07	24.8	0.0	0.000312

Kailua_min8.txt

0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.05	24.76	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.07	24.67	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.07	24.65	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.07	24.55	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.09	24.52	0.0	0.000312	
0.07	90.0	0.0003						

Ttl-flo Temp
(MGD) (C)
16.96 28.04

Froude number: 6.788

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.251	67.3	1.475	-0.243	0.354;
40	105.4	0.07	10.55	45.29	2.182	-0.57	0.851;
60	105.3	0.07	15.18	30.48	3.232	-0.995	1.539;
80	105.1	0.07	21.38	20.51	4.791	-1.52	2.464;
100	104.5	0.07	29.09	13.8	7.109	-2.117	3.643;
120	103.6	0.07	38.29	9.289	10.55	-2.691	4.958;
140	102.3	0.07	49.42	6.251	15.67	-3.205	6.376;
160	100.5	0.07	63.19	4.207	23.28	-3.66	7.949;
180	98.36	0.07	80.49	2.831	34.58	-4.064	9.767;
200	95.67	0.07	102.3	1.905	51.37	-4.424	11.94;
218	92.75	0.07	126.8	1.334	73.36	-4.714	14.32; merging,
220	92.34	0.07	129.9	1.282	76.33	-4.749	14.66;
240	86.9	0.07	178.6	0.863	113.4	-5.125	19.11;
260	78.66	0.07	265.5	0.58	168.5	-5.527	25.92;
280	66.06	0.07	397.7	0.391	250.4	-5.955	36.39;
291	56.53	0.07	496.3	0.314	311.3	-6.196	44.25; axial vel
0.0209	max dilution reached						
300	46.97	0.07	594.6	0.263	372.1	-6.395	52.1;
318	21.67	0.07	852.6	0.184	531.4	-6.796	72.68; axial vel

0.0932 (trap1)surface,

Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 174.46 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	time (ppm)	rate (ly/hr)	(m/s)(m ^{0.67} /s ²)
0.18312	533.4	175.2	25.0	0.0109	0.0	21.2	0.07 3.00E-4
0.18327	532.7	176.7	30.0	0.0308	0.0	21.2	0.07 3.00E-4
0.1833	532.4	178.1	35.0	0.0506	0.0	21.2	0.07 3.00E-4
0.18328	532.2	179.5	40.0	0.0704	0.0	21.2	0.07 3.00E-4
0.18325	532.0	180.9	45.0	0.0903	0.0	21.2	0.07 3.00E-4
0.1832	531.9	182.3	50.0	0.11	0.0	21.2	0.07 3.00E-4
0.18315	531.9	183.6	55.0	0.13	0.0	21.2	0.07 3.00E-4
0.18309	531.8	185.0	60.0	0.15	0.0	21.2	0.07 3.00E-4
0.18303	531.7	186.3	65.0	0.17	0.0	21.2	0.07 3.00E-4
0.18296	531.7	187.7	70.0	0.189	0.0	21.2	0.07 3.00E-4
0.18289	531.7	189.0	75.0	0.209	0.0	21.2	0.07 3.00E-4
0.18282	531.7	190.3	80.0	0.229	0.0	21.2	0.07 3.00E-4
0.18274	531.7	191.6	85.0	0.249	0.0	21.2	0.07 3.00E-4
0.18265	531.7	193.0	90.0	0.269	0.0	21.2	0.07 3.00E-4
0.18255	531.7	194.2	95.0	0.289	0.0	21.2	0.07 3.00E-4
0.18244	531.8	195.5	100.0	0.309	0.0	21.2	0.07 3.00E-4
0.18232	532.0	196.8	105.0	0.328	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.18218	532.1	198.1	110.0	0.348	0.0	21.2	0.07	3.00E-4
0.18203	532.4	199.3	115.0	0.368	0.0	21.2	0.07	3.00E-4
0.18185	532.6	200.6	120.0	0.388	0.0	21.2	0.07	3.00E-4
0.18166	533.0	201.8	125.0	0.408	0.0	21.2	0.07	3.00E-4
0.18146	533.4	203.1	130.0	0.428	0.0	21.2	0.07	3.00E-4
0.18123	533.8	204.3	135.0	0.447	0.0	21.2	0.07	3.00E-4
0.18098	534.3	205.5	140.0	0.467	0.0	21.2	0.07	3.00E-4
0.18071	534.9	206.7	145.0	0.487	0.0	21.2	0.07	3.00E-4
0.18043	535.5	208.0	150.0	0.507	0.0	21.2	0.07	3.00E-4
0.18013	536.2	209.2	155.0	0.527	0.0	21.2	0.07	3.00E-4
0.17982	536.9	210.4	160.0	0.547	0.0	21.2	0.07	3.00E-4
0.17949	537.6	211.5	165.0	0.566	0.0	21.2	0.07	3.00E-4
0.17914	538.5	212.7	170.0	0.586	0.0	21.2	0.07	3.00E-4
0.17879	539.3	213.9	175.0	0.606	0.0	21.2	0.07	3.00E-4
0.17842	540.2	215.1	180.0	0.626	0.0	21.2	0.07	3.00E-4
0.17803	541.2	216.2	185.0	0.646	0.0	21.2	0.07	3.00E-4
0.17764	542.2	217.4	190.0	0.666	0.0	21.2	0.07	3.00E-4
0.17723	543.2	218.5	195.0	0.686	0.0	21.2	0.07	3.00E-4
0.17681	544.3	219.7	200.0	0.705	0.0	21.2	0.07	3.00E-4
0.17638	545.4	220.8	205.0	0.725	0.0	21.2	0.07	3.00E-4
0.17594	546.5	222.0	210.0	0.745	0.0	21.2	0.07	3.00E-4
0.1755	547.7	223.1	215.0	0.765	0.0	21.2	0.07	3.00E-4
0.17505	548.9	224.2	220.0	0.785	0.0	21.2	0.07	3.00E-4
0.17459	550.1	225.3	225.0	0.805	0.0	21.2	0.07	3.00E-4
0.17412	551.4	226.4	230.0	0.824	0.0	21.2	0.07	3.00E-4
0.17364	552.7	227.5	235.0	0.844	0.0	21.2	0.07	3.00E-4
0.17314	554.1	228.6	240.0	0.864	0.0	21.2	0.07	3.00E-4
0.17265	555.4	229.7	245.0	0.884	0.0	21.2	0.07	3.00E-4
0.17216	556.8	230.8	250.0	0.904	0.0	21.2	0.07	3.00E-4
0.17167	558.2	231.9	255.0	0.924	0.0	21.2	0.07	3.00E-4
0.17117	559.6	233.0	260.0	0.943	0.0	21.2	0.07	3.00E-4
0.17066	561.0	234.0	265.0	0.963	0.0	21.2	0.07	3.00E-4
0.17015	562.5	235.1	270.0	0.983	0.0	21.2	0.07	3.00E-4
0.16966	563.9	236.2	275.0	1.003	0.0	21.2	0.07	3.00E-4
0.16915	565.4	237.2	280.0	1.023	0.0	21.2	0.07	3.00E-4
0.16864	566.9	238.3	285.0	1.043	0.0	21.2	0.07	3.00E-4
0.16813	568.4	239.3	290.0	1.063	0.0	21.2	0.07	3.00E-4
0.16761	570.0	240.4	295.0	1.082	0.0	21.2	0.07	3.00E-4
0.16709	571.5	241.4	300.0	1.102	0.0	21.2	0.07	3.00E-4
0.16657	573.1	242.5	305.0	1.122	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 53; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad	
m/s	Far-dir	Far-dir	Disprsn	psu	C	kg/kg	s-1		
m/s	m	m/s	m0.67/s2						
0.07	0.0	90.0	0.0003	35.07	24.8	0.0	0.000312		
0.07	2.0	0.07	90.0	35.07	24.81	0.0	0.000312		
0.07	90.0	0.0003	4.0	0.07	90.0	35.07	24.81	0.0	0.000312
0.07	90.0	0.0003	90.0	35.07	24.81	0.0	0.000312		
0.07	6.0	0.07	90.0	35.07	24.81	0.0	0.000312		
0.07	90.0	0.0003	8.0	0.07	90.0	35.07	24.8	0.0	0.000312
0.07	90.0	0.0003	10.0	0.07	90.0	35.07	24.8	0.0	0.000312
0.07	90.0	0.0003	12.0	0.07	90.0	35.07	24.8	0.0	0.000312
0.07	90.0	0.0003	14.0	0.07	90.0	35.07	24.8	0.0	0.000312

Kailua_min8.txt

0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.05	24.76	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.07	24.67	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.07	24.65	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.07	24.55	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.09	24.52	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.5	28.04							
Froude number:	6.203							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.242	67.3	1.475	-0.24	0.35;	
40	105.4	0.07	10.51	45.29	2.182	-0.56	0.839;	
60	105.3	0.07	15.07	30.48	3.232	-0.971	1.512;	
80	105.0	0.07	21.07	20.51	4.791	-1.472	2.411;	
100	104.4	0.07	28.42	13.8	7.109	-2.022	3.525;	
120	103.5	0.07	37.17	9.289	10.55	-2.536	4.743;	
140	102.2	0.07	47.82	6.251	15.67	-2.993	6.061;	
160	100.6	0.07	61.05	4.207	23.28	-3.397	7.537;	
180	98.46	0.07	77.7	2.831	34.58	-3.756	9.258;	
200	95.89	0.07	98.71	1.905	51.37	-4.077	11.33;	
220	92.76	0.07	125.2	1.282	76.33	-4.362	13.9;	
221	92.58	0.07	126.7	1.257	77.85	-4.376	14.04; merging,	
240	87.83	0.07	169.6	0.863	113.4	-4.683	18.01;	
260	80.34	0.07	250.9	0.58	168.5	-5.029	24.38;	
280	68.93	0.07	376.1	0.391	250.4	-5.4	34.27;	
296	55.68	0.07	519.1	0.284	343.7	-5.707	45.72; axial vel	
0.0215	max dilution reached							
300	51.64	0.07	562.5	0.263	372.1	-5.784	49.21;	
320	25.62	0.07	839.5	0.177	552.9	-6.173	71.48; axial vel	
0.0751								
322	22.39	0.07	873.7	0.17	575.2	-6.213	74.23;	
(trap1) surface,								
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						175.00	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr) (m/s)(m ^{0.67} /s ²)	
0.16913	577.4	175.7	25.0	0.00911	0.0	21.2	0.07 3.00E-4	
0.1693	576.6	177.1	30.0	0.029	0.0	21.2	0.07 3.00E-4	
0.16933	576.3	178.5	35.0	0.0488	0.0	21.2	0.07 3.00E-4	
0.16932	576.0	179.9	40.0	0.0686	0.0	21.2	0.07 3.00E-4	
0.16929	575.9	181.3	45.0	0.0885	0.0	21.2	0.07 3.00E-4	
0.16924	575.8	182.7	50.0	0.108	0.0	21.2	0.07 3.00E-4	
0.1692	575.7	184.1	55.0	0.128	0.0	21.2	0.07 3.00E-4	
0.16914	575.6	185.4	60.0	0.148	0.0	21.2	0.07 3.00E-4	
0.16908	575.6	186.8	65.0	0.168	0.0	21.2	0.07 3.00E-4	

Kailua_min8.txt

	575.5	188.1	70.0	0.188	0.0	21.2	0.07	3.00E-4
0.16902	575.5	189.4	75.0	0.208	0.0	21.2	0.07	3.00E-4
0.16896	575.5	190.8	80.0	0.227	0.0	21.2	0.07	3.00E-4
0.16889	575.5	192.1	85.0	0.247	0.0	21.2	0.07	3.00E-4
0.16882	575.5	193.4	90.0	0.267	0.0	21.2	0.07	3.00E-4
0.16874	575.6	194.7	95.0	0.287	0.0	21.2	0.07	3.00E-4
0.16865	575.7	196.0	100.0	0.307	0.0	21.2	0.07	3.00E-4
0.16855	575.8	197.3	105.0	0.327	0.0	21.2	0.07	3.00E-4
0.16843	576.0	198.5	110.0	0.346	0.0	21.2	0.07	3.00E-4
0.16831	576.2	199.8	115.0	0.366	0.0	21.2	0.07	3.00E-4
0.16817	576.5	201.0	120.0	0.386	0.0	21.2	0.07	3.00E-4
0.16784	576.8	202.3	125.0	0.406	0.0	21.2	0.07	3.00E-4
0.16765	577.3	203.5	130.0	0.426	0.0	21.2	0.07	3.00E-4
0.16744	577.7	204.8	135.0	0.446	0.0	21.2	0.07	3.00E-4
0.16722	578.3	206.0	140.0	0.465	0.0	21.2	0.07	3.00E-4
0.16697	578.9	207.2	145.0	0.485	0.0	21.2	0.07	3.00E-4
0.16671	579.5	208.4	150.0	0.505	0.0	21.2	0.07	3.00E-4
0.16644	580.3	209.6	155.0	0.525	0.0	21.2	0.07	3.00E-4
0.16615	581.0	210.8	160.0	0.545	0.0	21.2	0.07	3.00E-4
0.16585	581.8	212.0	165.0	0.565	0.0	21.2	0.07	3.00E-4
0.16554	582.7	213.2	170.0	0.585	0.0	21.2	0.07	3.00E-4
0.16521	583.6	214.4	175.0	0.604	0.0	21.2	0.07	3.00E-4
0.16487	584.6	215.5	180.0	0.624	0.0	21.2	0.07	3.00E-4
0.16451	585.6	216.7	185.0	0.644	0.0	21.2	0.07	3.00E-4
0.16415	586.7	217.9	190.0	0.664	0.0	21.2	0.07	3.00E-4
0.16378	587.8	219.0	195.0	0.684	0.0	21.2	0.07	3.00E-4
0.1634	588.9	220.2	200.0	0.704	0.0	21.2	0.07	3.00E-4
0.163	590.1	221.3	205.0	0.723	0.0	21.2	0.07	3.00E-4
0.1626	591.4	222.4	210.0	0.743	0.0	21.2	0.07	3.00E-4
0.16219	592.6	223.6	215.0	0.763	0.0	21.2	0.07	3.00E-4
0.16177	593.9	224.7	220.0	0.783	0.0	21.2	0.07	3.00E-4
0.16135	595.2	225.8	225.0	0.803	0.0	21.2	0.07	3.00E-4
0.16092	596.6	226.9	230.0	0.823	0.0	21.2	0.07	3.00E-4
0.16048	598.0	228.0	235.0	0.842	0.0	21.2	0.07	3.00E-4
0.16002	599.5	229.1	240.0	0.862	0.0	21.2	0.07	3.00E-4
0.15957	600.9	230.2	245.0	0.882	0.0	21.2	0.07	3.00E-4
0.15912	602.4	231.3	250.0	0.902	0.0	21.2	0.07	3.00E-4
0.15866	603.9	232.4	255.0	0.922	0.0	21.2	0.07	3.00E-4
0.1582	605.4	233.5	260.0	0.942	0.0	21.2	0.07	3.00E-4
0.15774	607.0	234.6	265.0	0.961	0.0	21.2	0.07	3.00E-4
0.15727	608.6	235.6	270.0	0.981	0.0	21.2	0.07	3.00E-4
0.15681	610.1	236.7	275.0	1.001	0.0	21.2	0.07	3.00E-4
0.15634	611.7	237.8	280.0	1.021	0.0	21.2	0.07	3.00E-4
0.15587	613.3	238.8	285.0	1.041	0.0	21.2	0.07	3.00E-4
0.1554	615.0	239.9	290.0	1.061	0.0	21.2	0.07	3.00E-4
0.15492	616.6	240.9	295.0	1.081	0.0	21.2	0.07	3.00E-4
0.15445	618.3	242.0	300.0	1.1	0.0	21.2	0.07	3.00E-4
0.15397	620.0	243.0	305.0	1.12	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 54; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg	Amb-dir Disprsn m/s	Amb-sal deg	Amb-tem psu	Amb-pol c	Solar rad kg/kg	s-1
	0.0	0.07	90.0	0.0003	35.07	24.8	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.07	24.81	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.07	24.81	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.07	24.81	0.0	0.000312

Kailua_min8.txt

0.07	90.0	0.0003						
0.07	8.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	10.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.07	24.8	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.05	24.76	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.07	24.67	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.07	24.65	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.07	24.55	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.09	24.52	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.75	28.04							

Froude number: 6.304

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.244	67.3	1.475	-0.24	0.35;
40	105.4	0.07	10.52	45.29	2.182	-0.562	0.842;
60	105.3	0.07	15.09	30.48	3.232	-0.976	1.517;
80	105.0	0.07	21.13	20.51	4.791	-1.481	2.421;
100	104.4	0.07	28.54	13.8	7.109	-2.039	3.547;
120	103.5	0.07	37.37	9.289	10.55	-2.563	4.781;
140	102.2	0.07	48.1	6.251	15.67	-3.03	6.117;
160	100.5	0.07	61.43	4.207	23.28	-3.443	7.609;
180	98.44	0.07	78.19	2.831	34.58	-3.81	9.347;
200	95.85	0.07	99.34	1.905	51.37	-4.137	11.44;
220	92.69	0.07	126.0	1.282	76.33	-4.428	14.02; merging,
240	87.66	0.07	171.1	0.863	113.4	-4.759	18.2;
260	80.04	0.07	253.5	0.58	168.5	-5.115	24.65;
280	68.42	0.07	379.8	0.391	250.4	-5.496	34.64;
295	55.92	0.07	513.8	0.29	337.0	-5.79	45.36; axial vel

0.0213 max dilution reached

300	50.82	0.07	568.1	0.263	372.1	-5.889	49.71;
320	24.34	0.07	847.8	0.177	552.9	-6.288	72.17; axial vel

0.0803	321	22.72	0.07	864.9	0.173	563.9	-6.308	73.54;
(trap1)surface,								

Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 174.77 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	time (hrs)	concentration (ppm)	rate (ly/hr)	velocity (m/s) (m ^{0.67} /s ²)
0.17253	566.1	175.5	25.0	0.00993	0.0	21.2	0.07	3.00E-4
0.17269	565.3	176.9	30.0	0.0298	0.0	21.2	0.07	3.00E-4

Kailua_min8.txt								
	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
Far-spd	Far-dir	Disprsn						
m/s	deg	m/s	deg	psu	c	kg/kg	s-1	
0.17272	564.9	178.3	35.0	0.0496	0.0	21.2	0.07	3.00E-4
0.17271	564.7	179.7	40.0	0.0695	0.0	21.2	0.07	3.00E-4
0.17267	564.6	181.1	45.0	0.0893	0.0	21.2	0.07	3.00E-4
0.17263	564.5	182.5	50.0	0.109	0.0	21.2	0.07	3.00E-4
0.17258	564.4	183.9	55.0	0.129	0.0	21.2	0.07	3.00E-4
0.17253	564.3	185.2	60.0	0.149	0.0	21.2	0.07	3.00E-4
0.17247	564.3	186.6	65.0	0.169	0.0	21.2	0.07	3.00E-4
0.17241	564.2	187.9	70.0	0.189	0.0	21.2	0.07	3.00E-4
0.17234	564.2	189.3	75.0	0.208	0.0	21.2	0.07	3.00E-4
0.17227	564.2	190.6	80.0	0.228	0.0	21.2	0.07	3.00E-4
0.17219	564.2	191.9	85.0	0.248	0.0	21.2	0.07	3.00E-4
0.17211	564.2	193.2	90.0	0.268	0.0	21.2	0.07	3.00E-4
0.17202	564.3	194.5	95.0	0.288	0.0	21.2	0.07	3.00E-4
0.17192	564.4	195.8	100.0	0.308	0.0	21.2	0.07	3.00E-4
0.1718	564.5	197.1	105.0	0.327	0.0	21.2	0.07	3.00E-4
0.17167	564.7	198.3	110.0	0.347	0.0	21.2	0.07	3.00E-4
0.17153	564.9	199.6	115.0	0.367	0.0	21.2	0.07	3.00E-4
0.17137	565.2	200.9	120.0	0.387	0.0	21.2	0.07	3.00E-4
0.17119	565.6	202.1	125.0	0.407	0.0	21.2	0.07	3.00E-4
0.171	566.0	203.3	130.0	0.427	0.0	21.2	0.07	3.00E-4
0.17078	566.4	204.6	135.0	0.446	0.0	21.2	0.07	3.00E-4
0.17055	567.0	205.8	140.0	0.466	0.0	21.2	0.07	3.00E-4
0.1703	567.6	207.0	145.0	0.486	0.0	21.2	0.07	3.00E-4
0.17003	568.2	208.2	150.0	0.506	0.0	21.2	0.07	3.00E-4
0.16975	568.9	209.4	155.0	0.526	0.0	21.2	0.07	3.00E-4
0.16946	569.7	210.6	160.0	0.546	0.0	21.2	0.07	3.00E-4
0.16915	570.5	211.8	165.0	0.565	0.0	21.2	0.07	3.00E-4
0.16883	571.3	213.0	170.0	0.585	0.0	21.2	0.07	3.00E-4
0.16849	572.3	214.2	175.0	0.605	0.0	21.2	0.07	3.00E-4
0.16815	573.2	215.4	180.0	0.625	0.0	21.2	0.07	3.00E-4
0.16778	574.2	216.5	185.0	0.645	0.0	21.2	0.07	3.00E-4
0.16742	575.3	217.7	190.0	0.665	0.0	21.2	0.07	3.00E-4
0.16703	576.3	218.8	195.0	0.685	0.0	21.2	0.07	3.00E-4
0.16664	577.5	220.0	200.0	0.704	0.0	21.2	0.07	3.00E-4
0.16624	578.6	221.1	205.0	0.724	0.0	21.2	0.07	3.00E-4
0.16582	579.9	222.2	210.0	0.744	0.0	21.2	0.07	3.00E-4
0.16541	581.1	223.4	215.0	0.764	0.0	21.2	0.07	3.00E-4
0.16498	582.4	224.5	220.0	0.784	0.0	21.2	0.07	3.00E-4
0.16455	583.7	225.6	225.0	0.804	0.0	21.2	0.07	3.00E-4
0.16411	585.0	226.7	230.0	0.823	0.0	21.2	0.07	3.00E-4
0.16366	586.4	227.8	235.0	0.843	0.0	21.2	0.07	3.00E-4
0.16319	587.9	228.9	240.0	0.863	0.0	21.2	0.07	3.00E-4
0.16273	589.3	230.0	245.0	0.883	0.0	21.2	0.07	3.00E-4
0.16227	590.7	231.1	250.0	0.903	0.0	21.2	0.07	3.00E-4
0.16181	592.2	232.2	255.0	0.923	0.0	21.2	0.07	3.00E-4
0.16134	593.7	233.3	260.0	0.942	0.0	21.2	0.07	3.00E-4
0.16086	595.2	234.3	265.0	0.962	0.0	21.2	0.07	3.00E-4
0.16038	596.8	235.4	270.0	0.982	0.0	21.2	0.07	3.00E-4
0.15992	598.3	236.5	275.0	1.002	0.0	21.2	0.07	3.00E-4
0.15944	599.8	237.5	280.0	1.022	0.0	21.2	0.07	3.00E-4
0.15896	601.4	238.6	285.0	1.042	0.0	21.2	0.07	3.00E-4
0.15847	603.0	239.6	290.0	1.062	0.0	21.2	0.07	3.00E-4
0.15799	604.7	240.7	295.0	1.081	0.0	21.2	0.07	3.00E-4
0.1575	606.3	241.7	300.0	1.101	0.0	21.2	0.07	3.00E-4
0.15701	608.0	242.8	305.0	1.121	0.0	21.2	0.07	3.00E-4

count: 57
 / Windows UM3.
 Case 55; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
Far-spd	Far-dir	Disprsn					
m/s	deg	m0.67/s2					

Kailua_min8.txt								
0.07	0.0	0.07	90.0	35.22	24.61	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.22	24.61	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.22	24.61	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.22	24.61	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.22	24.61	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.22	24.61	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.21	24.61	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.23	24.58	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.22	24.57	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.23	24.56	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.24	24.55	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.23	24.54	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.24	24.53	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.21	24.5	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.21	24.44	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.25	24.34	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.25	24.33	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.25	24.33	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo		Temp						
(MGD)		(C)						
13.67		28.04						
Froude number:		5.447						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.229	67.3	1.475	-0.235	0.343	
40	105.4	0.07	10.46	45.29	2.182	-0.544	0.821	
60	105.3	0.07	14.89	30.48	3.231	-0.936	1.472	
80	104.9	0.07	20.58	20.51	4.791	-1.402	2.331	
100	104.3	0.07	27.4	13.8	7.108	-1.882	3.342	
120	103.4	0.07	35.56	9.289	10.55	-2.319	4.432	
140	102.2	0.07	45.55	6.251	15.67	-2.705	5.621	
160	100.6	0.07	58.01	4.207	23.27	-3.047	6.971	
180	98.59	0.07	73.66	2.831	34.57	-3.351	8.562	
200	96.15	0.07	93.5	1.905	51.36	-3.621	10.5	
220	93.23	0.07	119.0	1.282	76.31	-3.861	12.9	
224	92.58	0.07	124.9	1.184	82.6	-3.906	13.45; merging,	
240	89.02	0.07	160.0	0.863	113.4	-4.117	16.58;	
260	82.48	0.07	233.8	0.58	168.5	-4.405	22.52;	
280	72.41	0.07	344.6	0.391	250.3	-4.712	31.73;	
300	57.38	0.07	517.5	0.263	372.0	-5.025	45.48; axial vel	
0.0199								
302	55.55	0.07	540.5	0.253	387.0	-5.056	47.18; max dilution	
reached								
320	36.4	0.07	829.2	0.177	552.8	-5.345	66.27; trap1 level,	

Kailua_min8.txt								
321	35.26	0.07	853.2	0.173	563.7	-5.361	67.53; trap level,	
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of	m						174.48
0.17266	565.5	175.7	25.0	0.0173	0.0	21.2	0.07	3.00E-4
0.17275	565.0	177.1	30.0	0.0371	0.0	21.2	0.07	3.00E-4
0.17276	564.7	178.6	35.0	0.057	0.0	21.2	0.07	3.00E-4
0.17274	564.5	180.0	40.0	0.0768	0.0	21.2	0.07	3.00E-4
0.17277	564.4	181.3	45.0	0.0966	0.0	21.2	0.07	3.00E-4
0.17265	564.3	182.7	50.0	0.116	0.0	21.2	0.07	3.00E-4
0.1726	564.2	184.1	55.0	0.136	0.0	21.2	0.07	3.00E-4
0.17255	564.1	185.4	60.0	0.156	0.0	21.2	0.07	3.00E-4
0.17249	564.1	186.8	65.0	0.176	0.0	21.2	0.07	3.00E-4
0.17242	564.1	188.1	70.0	0.196	0.0	21.2	0.07	3.00E-4
0.17235	564.0	189.5	75.0	0.216	0.0	21.2	0.07	3.00E-4
0.17228	564.0	190.8	80.0	0.236	0.0	21.2	0.07	3.00E-4
0.17222	564.0	192.1	85.0	0.255	0.0	21.2	0.07	3.00E-4
0.17212	564.1	193.4	90.0	0.275	0.0	21.2	0.07	3.00E-4
0.17202	564.1	194.7	95.0	0.295	0.0	21.2	0.07	3.00E-4
0.17192	564.3	196.0	100.0	0.315	0.0	21.2	0.07	3.00E-4
0.17179	564.4	197.2	105.0	0.335	0.0	21.2	0.07	3.00E-4
0.17166	564.6	198.5	110.0	0.355	0.0	21.2	0.07	3.00E-4
0.17151	564.9	199.8	115.0	0.374	0.0	21.2	0.07	3.00E-4
0.17134	565.2	201.0	120.0	0.394	0.0	21.2	0.07	3.00E-4
0.17116	565.5	202.3	125.0	0.414	0.0	21.2	0.07	3.00E-4
0.17096	566.0	203.5	130.0	0.434	0.0	21.2	0.07	3.00E-4
0.17074	566.5	204.7	135.0	0.454	0.0	21.2	0.07	3.00E-4
0.1705	567.0	205.9	140.0	0.474	0.0	21.2	0.07	3.00E-4
0.17024	567.7	207.2	145.0	0.493	0.0	21.2	0.07	3.00E-4
0.16997	568.3	208.4	150.0	0.513	0.0	21.2	0.07	3.00E-4
0.16968	569.1	209.6	155.0	0.533	0.0	21.2	0.07	3.00E-4
0.16938	569.8	210.8	160.0	0.553	0.0	21.2	0.07	3.00E-4
0.16907	570.7	211.9	165.0	0.573	0.0	21.2	0.07	3.00E-4
0.16874	571.5	213.1	170.0	0.593	0.0	21.2	0.07	3.00E-4
0.1684	572.5	214.3	175.0	0.613	0.0	21.2	0.07	3.00E-4
0.16804	573.4	215.5	180.0	0.632	0.0	21.2	0.07	3.00E-4
0.16768	574.5	216.6	185.0	0.652	0.0	21.2	0.07	3.00E-4
0.1673	575.5	217.8	190.0	0.672	0.0	21.2	0.07	3.00E-4
0.16692	576.6	218.9	195.0	0.692	0.0	21.2	0.07	3.00E-4
0.16652	577.8	220.1	200.0	0.712	0.0	21.2	0.07	3.00E-4
0.16611	579.0	221.2	205.0	0.732	0.0	21.2	0.07	3.00E-4
0.16569	580.2	222.3	210.0	0.751	0.0	21.2	0.07	3.00E-4
0.16528	581.4	223.5	215.0	0.771	0.0	21.2	0.07	3.00E-4
0.16485	582.7	224.6	220.0	0.791	0.0	21.2	0.07	3.00E-4
0.16441	584.1	225.7	225.0	0.811	0.0	21.2	0.07	3.00E-4
0.16396	585.4	226.8	230.0	0.831	0.0	21.2	0.07	3.00E-4
0.16351	586.8	227.9	235.0	0.851	0.0	21.2	0.07	3.00E-4
0.16304	588.3	229.0	240.0	0.87	0.0	21.2	0.07	3.00E-4
0.16258	589.7	230.1	245.0	0.89	0.0	21.2	0.07	3.00E-4
0.16212	591.2	231.2	250.0	0.91	0.0	21.2	0.07	3.00E-4
0.16165	592.7	232.3	255.0	0.93	0.0	21.2	0.07	3.00E-4
0.16118	594.2	233.3	260.0	0.95	0.0	21.2	0.07	3.00E-4
0.1607	595.7	234.4	265.0	0.97	0.0	21.2	0.07	3.00E-4
0.16022	597.3	235.5	270.0	0.989	0.0	21.2	0.07	3.00E-4
0.15975	598.8	236.5	275.0	1.009	0.0	21.2	0.07	3.00E-4
0.15927	600.3	237.6	280.0	1.029	0.0	21.2	0.07	3.00E-4
0.15879	601.9	238.6	285.0	1.049	0.0	21.2	0.07	3.00E-4
0.15831	603.6	239.7	290.0	1.069	0.0	21.2	0.07	3.00E-4
0.15782	605.2	240.7	295.0	1.089	0.0	21.2	0.07	3.00E-4
0.15733	606.8	241.8	300.0	1.109	0.0	21.2	0.07	3.00E-4
0.15684	608.5	242.8	305.0	1.128	0.0	21.2	0.07	3.00E-4

count: 57

Kailua_min8.txt

/ windows UM3.
Case 56; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
	Far-dir	Disprsn					
m/s	m	m/s	deg	psu	c	kg/kg	s-1
0.07	0.0	0.07	90.0	35.22	24.61	0.0	0.000312
0.07	2.0	0.07	90.0	35.22	24.61	0.0	0.000312
0.07	4.0	0.07	90.0	35.22	24.61	0.0	0.000312
0.07	6.0	0.07	90.0	35.22	24.61	0.0	0.000312
0.07	8.0	0.07	90.0	35.22	24.61	0.0	0.000312
0.07	10.0	0.07	90.0	35.22	24.61	0.0	0.000312
0.07	12.0	0.07	90.0	35.21	24.61	0.0	0.000312
0.07	14.0	0.07	90.0	35.23	24.58	0.0	0.000312
0.07	16.0	0.07	90.0	35.22	24.57	0.0	0.000312
0.07	18.0	0.07	90.0	35.23	24.56	0.0	0.000312
0.07	20.0	0.07	90.0	35.24	24.55	0.0	0.000312
0.07	22.0	0.07	90.0	35.23	24.54	0.0	0.000312
0.07	24.0	0.07	90.0	35.24	24.53	0.0	0.000312
0.07	26.0	0.07	90.0	35.21	24.5	0.0	0.000312
0.07	28.0	0.07	90.0	35.21	24.44	0.0	0.000312
0.07	30.0	0.07	90.0	35.25	24.34	0.0	0.000312
0.07	32.0	0.07	90.0	35.25	24.33	0.0	0.000312
0.07	33.0	0.07	90.0	35.25	24.33	0.0	0.000312
0.07	34.0	0.0003					
	Ttl-flo	Temp					
	(MGD)	(C)					
	15.98	28.04					

Froude number: 6.367

Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.245	67.3	1.475	-0.241	0.351;
40	105.4	0.07	10.52	45.29	2.182	-0.563	0.843;
60	105.3	0.07	15.1	30.48	3.231	-0.979	1.521;
80	105.0	0.07	21.17	20.51	4.791	-1.488	2.429;
100	104.4	0.07	28.62	13.8	7.108	-2.053	3.563;
120	103.5	0.07	37.49	9.289	10.55	-2.585	4.809;
140	102.2	0.07	48.26	6.251	15.67	-3.059	6.155;
160	100.5	0.07	61.6	4.207	23.27	-3.478	7.656;
180	98.39	0.07	78.33	2.831	34.57	-3.849	9.399;
200	95.76	0.07	99.54	1.905	51.36	-4.18	11.49;
220	92.59	0.07	126.8	1.282	76.31	-4.475	14.08;
240	87.54	0.07	174.9	0.863	113.4	-4.817	18.34;
260	79.78	0.07	257.3	0.58	168.5	-5.19	25.01;

Kailua_min8.txt
 280 67.87 0.07 381.2 0.391 250.3 -5.581 35.11;
 294 56.17 0.07 507.3 0.296 330.3 -5.859 45.01; axial vel
 0.021 max dilution reached
 300 50.23 0.07 580.7 0.263 372.0 -5.979 50.14;
 319 27.58 0.07 934.0 0.18 541.9 -6.371 71.71; axial vel
 0.0696 (trap1) surface,
 Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 176.53
 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.17954	543.9	177.4	25.0	0.0121	0.0	21.2	0.07 3.00E-4
0.17968	543.2	178.8	30.0	0.032	0.0	21.2	0.07 3.00E-4
0.17971	542.9	180.3	35.0	0.0518	0.0	21.2	0.07 3.00E-4
0.17969	542.7	181.7	40.0	0.0717	0.0	21.2	0.07 3.00E-4
0.17965	542.6	183.1	45.0	0.0915	0.0	21.2	0.07 3.00E-4
0.17961	542.5	184.4	50.0	0.111	0.0	21.2	0.07 3.00E-4
0.17956	542.4	185.8	55.0	0.131	0.0	21.2	0.07 3.00E-4
0.1795	542.3	187.2	60.0	0.151	0.0	21.2	0.07 3.00E-4
0.17944	542.3	188.5	65.0	0.171	0.0	21.2	0.07 3.00E-4
0.17937	542.2	189.9	70.0	0.191	0.0	21.2	0.07 3.00E-4
0.1793	542.2	191.2	75.0	0.211	0.0	21.2	0.07 3.00E-4
0.17923	542.2	192.6	80.0	0.23	0.0	21.2	0.07 3.00E-4
0.17915	542.2	193.9	85.0	0.25	0.0	21.2	0.07 3.00E-4
0.17906	542.2	195.2	90.0	0.27	0.0	21.2	0.07 3.00E-4
0.17897	542.3	196.5	95.0	0.29	0.0	21.2	0.07 3.00E-4
0.17886	542.4	197.8	100.0	0.31	0.0	21.2	0.07 3.00E-4
0.17874	542.5	199.1	105.0	0.33	0.0	21.2	0.07 3.00E-4
0.17861	542.7	200.3	110.0	0.349	0.0	21.2	0.07 3.00E-4
0.17846	542.9	201.6	115.0	0.369	0.0	21.2	0.07 3.00E-4
0.17829	543.2	202.9	120.0	0.389	0.0	21.2	0.07 3.00E-4
0.17811	543.5	204.1	125.0	0.409	0.0	21.2	0.07 3.00E-4
0.17791	543.9	205.3	130.0	0.429	0.0	21.2	0.07 3.00E-4
0.17769	544.3	206.6	135.0	0.449	0.0	21.2	0.07 3.00E-4
0.17745	544.8	207.8	140.0	0.468	0.0	21.2	0.07 3.00E-4
0.17719	545.4	209.0	145.0	0.488	0.0	21.2	0.07 3.00E-4
0.17692	546.0	210.3	150.0	0.508	0.0	21.2	0.07 3.00E-4
0.17663	546.7	211.5	155.0	0.528	0.0	21.2	0.07 3.00E-4
0.17633	547.4	212.7	160.0	0.548	0.0	21.2	0.07 3.00E-4
0.17601	548.2	213.9	165.0	0.568	0.0	21.2	0.07 3.00E-4
0.17567	549.0	215.0	170.0	0.588	0.0	21.2	0.07 3.00E-4
0.17533	549.9	216.2	175.0	0.607	0.0	21.2	0.07 3.00E-4
0.17497	550.8	217.4	180.0	0.627	0.0	21.2	0.07 3.00E-4
0.1746	551.7	218.6	185.0	0.647	0.0	21.2	0.07 3.00E-4
0.17421	552.7	219.7	190.0	0.667	0.0	21.2	0.07 3.00E-4
0.17382	553.7	220.9	195.0	0.687	0.0	21.2	0.07 3.00E-4
0.17342	554.8	222.0	200.0	0.707	0.0	21.2	0.07 3.00E-4
0.173	555.9	223.2	205.0	0.726	0.0	21.2	0.07 3.00E-4
0.17257	557.1	224.3	210.0	0.746	0.0	21.2	0.07 3.00E-4
0.17215	558.2	225.4	215.0	0.766	0.0	21.2	0.07 3.00E-4
0.17171	559.5	226.6	220.0	0.786	0.0	21.2	0.07 3.00E-4
0.17126	560.7	227.7	225.0	0.806	0.0	21.2	0.07 3.00E-4
0.1708	562.0	228.8	230.0	0.826	0.0	21.2	0.07 3.00E-4
0.17034	563.3	229.9	235.0	0.845	0.0	21.2	0.07 3.00E-4
0.16987	564.6	231.0	240.0	0.865	0.0	21.2	0.07 3.00E-4
0.16938	566.0	232.1	245.0	0.885	0.0	21.2	0.07 3.00E-4
0.16891	567.4	233.2	250.0	0.905	0.0	21.2	0.07 3.00E-4
0.16843	568.8	234.3	255.0	0.925	0.0	21.2	0.07 3.00E-4
0.16794	570.2	235.4	260.0	0.945	0.0	21.2	0.07 3.00E-4
0.16745	571.7	236.5	265.0	0.965	0.0	21.2	0.07 3.00E-4
0.16696	573.2	237.5	270.0	0.984	0.0	21.2	0.07 3.00E-4
0.16647	574.6	238.6	275.0	1.004	0.0	21.2	0.07 3.00E-4
0.16598	576.1	239.7	280.0	1.024	0.0	21.2	0.07 3.00E-4
0.16548	577.6	240.7	285.0	1.044	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.16498	579.1	241.8	290.0	1.064	0.0	21.2	0.07	3.00E-4
0.16448	580.7	242.8	295.0	1.084	0.0	21.2	0.07	3.00E-4
0.16398	582.2	243.9	300.0	1.103	0.0	21.2	0.07	3.00E-4
0.16347	583.8	244.9	305.0	1.123	0.0	21.2	0.07	3.00E-4

count: 57
 / Windows UM3.
 Case 57; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Amb-disprsn m0.67/s2	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	0.07	90.0	0.0003	34.96	25.49	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	34.96	25.49	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	34.97	25.48	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	34.97	25.48	0.0	0.000312
0.07	8.0	0.07	90.0	0.0003	34.97	25.48	0.0	0.000312
0.07	10.0	0.07	90.0	0.0003	34.98	25.47	0.0	0.000312
0.07	12.0	0.07	90.0	0.0003	34.98	25.48	0.0	0.000312
0.07	14.0	0.07	90.0	0.0003	35.01	25.49	0.0	0.000312
0.07	16.0	0.07	90.0	0.0003	35.01	25.48	0.0	0.000312
0.07	18.0	0.07	90.0	0.0003	35.01	25.48	0.0	0.000312
0.07	20.0	0.07	90.0	0.0003	35.01	25.47	0.0	0.000312
0.07	22.0	0.07	90.0	0.0003	35.01	25.46	0.0	0.000312
0.07	24.0	0.07	90.0	0.0003	35.01	25.46	0.0	0.000312
0.07	26.0	0.07	90.0	0.0003	35.01	25.46	0.0	0.000312
0.07	28.0	0.07	90.0	0.0003	35.01	25.46	0.0	0.000312
0.07	30.0	0.07	90.0	0.0003	35.01	25.46	0.0	0.000312
0.07	32.0	0.07	90.0	0.0003	35.01	25.46	0.0	0.000312
0.07	33.0	0.07	90.0	0.0003	35.01	25.46	0.0	0.000312
0.07	90.0	0.0003						
	Ttl-flo (MGD)	Temp (C)						
	13.22	28.04						
	Froude number:	5.33						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	;
20	105.4	0.07	7.226	67.3	1.475	-0.234	0.342	;
40	105.4	0.07	10.45	45.29	2.182	-0.54	0.816	;
60	105.3	0.07	14.85	30.48	3.232	-0.927	1.462	;
80	104.9	0.07	20.48	20.51	4.793	-1.384	2.311	;
100	104.3	0.07	27.22	13.8	7.111	-1.85	3.302	;
120	103.4	0.07	35.29	9.289	10.56	-2.272	4.37	;
140	102.2	0.07	45.19	6.251	15.68	-2.645	5.54	;
160	100.6	0.07	57.54	4.207	23.28	-2.975	6.872	;

Kailua_min8.txt							
180	98.7	0.07	73.05	2.831	34.59	-3.268	8.448;
200	96.32	0.07	92.58	1.905	51.39	-3.529	10.37;
220	93.43	0.07	117.2	1.282	76.35	-3.761	12.75;
225	92.62	0.07	124.2	1.161	84.29	-3.815	13.44; merging,
240	89.29	0.07	154.1	0.863	113.4	-4.0	16.29;
260	82.76	0.07	218.5	0.58	168.6	-4.261	21.85;
280	72.8	0.07	318.8	0.391	250.5	-4.53	30.19;
300	57.86	0.07	473.3	0.263	372.2	-4.803	42.54; axial vel
0.0192							
304	54.1	0.07	513.7	0.243	402.8	-4.857	45.65; max dilution
reached							
320	35.94	0.07	724.7	0.177	553.0	-5.079	60.98;
328	25.38	0.07	889.8	0.151	647.9	-5.19	70.72; axial vel
0.075 (trap1) surface,							
Const Eddy Diffusivity.							
m							
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m0.67/s2)
(ppm)		(m)	(m)	(hrs)			
0.15025	650.2	176.4	25.0	0.0134	0.0	21.2	0.07 3.00E-4
0.15035	649.4	177.8	30.0	0.0333	0.0	21.2	0.07 3.00E-4
0.15037	649.1	179.2	35.0	0.0531	0.0	21.2	0.07 3.00E-4
0.15035	648.8	180.6	40.0	0.073	0.0	21.2	0.07 3.00E-4
0.15032	648.7	182.0	45.0	0.0928	0.0	21.2	0.07 3.00E-4
0.15028	648.6	183.4	50.0	0.113	0.0	21.2	0.07 3.00E-4
0.15024	648.5	184.8	55.0	0.132	0.0	21.2	0.07 3.00E-4
0.15019	648.4	186.1	60.0	0.152	0.0	21.2	0.07 3.00E-4
0.15014	648.3	187.5	65.0	0.172	0.0	21.2	0.07 3.00E-4
0.15008	648.3	188.8	70.0	0.192	0.0	21.2	0.07 3.00E-4
0.15003	648.3	190.2	75.0	0.212	0.0	21.2	0.07 3.00E-4
0.14996	648.2	191.5	80.0	0.232	0.0	21.2	0.07 3.00E-4
0.1499	648.2	192.8	85.0	0.252	0.0	21.2	0.07 3.00E-4
0.14982	648.3	194.1	90.0	0.271	0.0	21.2	0.07 3.00E-4
0.14974	648.4	195.4	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.14965	648.5	196.7	100.0	0.311	0.0	21.2	0.07 3.00E-4
0.14955	648.6	198.0	105.0	0.331	0.0	21.2	0.07 3.00E-4
0.14944	648.8	199.2	110.0	0.351	0.0	21.2	0.07 3.00E-4
0.14931	649.1	200.5	115.0	0.371	0.0	21.2	0.07 3.00E-4
0.14917	649.5	201.8	120.0	0.39	0.0	21.2	0.07 3.00E-4
0.14901	649.9	203.0	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.14884	650.3	204.2	130.0	0.43	0.0	21.2	0.07 3.00E-4
0.14866	650.9	205.5	135.0	0.45	0.0	21.2	0.07 3.00E-4
0.14845	651.5	206.7	140.0	0.47	0.0	21.2	0.07 3.00E-4
0.14823	652.2	207.9	145.0	0.49	0.0	21.2	0.07 3.00E-4
0.148	653.0	209.1	150.0	0.509	0.0	21.2	0.07 3.00E-4
0.14775	653.8	210.3	155.0	0.529	0.0	21.2	0.07 3.00E-4
0.1475	654.6	211.5	160.0	0.549	0.0	21.2	0.07 3.00E-4
0.14723	655.6	212.7	165.0	0.569	0.0	21.2	0.07 3.00E-4
0.14695	656.6	213.9	170.0	0.589	0.0	21.2	0.07 3.00E-4
0.14665	657.6	215.1	175.0	0.609	0.0	21.2	0.07 3.00E-4
0.14635	658.7	216.2	180.0	0.629	0.0	21.2	0.07 3.00E-4
0.14603	659.9	217.4	185.0	0.648	0.0	21.2	0.07 3.00E-4
0.14571	661.1	218.6	190.0	0.668	0.0	21.2	0.07 3.00E-4
0.14538	662.3	219.7	195.0	0.688	0.0	21.2	0.07 3.00E-4
0.14504	663.6	220.9	200.0	0.708	0.0	21.2	0.07 3.00E-4
0.14469	665.0	222.0	205.0	0.728	0.0	21.2	0.07 3.00E-4
0.14433	666.4	223.1	210.0	0.748	0.0	21.2	0.07 3.00E-4
0.14397	667.8	224.3	215.0	0.767	0.0	21.2	0.07 3.00E-4
0.1436	669.2	225.4	220.0	0.787	0.0	21.2	0.07 3.00E-4
0.14322	670.7	226.5	225.0	0.807	0.0	21.2	0.07 3.00E-4
0.14283	672.3	227.6	230.0	0.827	0.0	21.2	0.07 3.00E-4
0.14244	673.9	228.7	235.0	0.847	0.0	21.2	0.07 3.00E-4
0.14203	675.5	229.8	240.0	0.867	0.0	21.2	0.07 3.00E-4
0.14164	677.2	230.9	245.0	0.886	0.0	21.2	0.07 3.00E-4

Kailua_min8.txt

0.14124	678.8	232.0	250.0	0.906	0.0	21.2	0.07	3.00E-4
0.14083	680.5	233.1	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.14042	682.3	234.2	260.0	0.946	0.0	21.2	0.07	3.00E-4
0.14001	684.0	235.3	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.13959	685.8	236.3	270.0	0.986	0.0	21.2	0.07	3.00E-4
0.13919	687.5	237.4	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.13877	689.3	238.5	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.13835	691.1	239.5	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.13793	693.0	240.6	290.0	1.065	0.0	21.2	0.07	3.00E-4
0.13751	694.8	241.6	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.13709	696.7	242.7	300.0	1.105	0.0	21.2	0.07	3.00E-4
0.13666	698.6	243.7	305.0	1.125	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 58; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal	Amb-tem	Amb-pol	Solar rad
					deg	psu	c	kg/kg
0.07	0.0	90.0	0.07	0.0003	34.96	25.49	0.0	0.000312
0.07	2.0	90.0	0.07	0.0003	34.96	25.49	0.0	0.000312
0.07	4.0	90.0	0.07	0.0003	34.97	25.48	0.0	0.000312
0.07	6.0	90.0	0.07	0.0003	34.97	25.48	0.0	0.000312
0.07	8.0	90.0	0.07	0.0003	34.97	25.48	0.0	0.000312
0.07	10.0	90.0	0.07	0.0003	34.98	25.47	0.0	0.000312
0.07	12.0	90.0	0.07	0.0003	34.98	25.48	0.0	0.000312
0.07	14.0	90.0	0.07	0.0003	35.01	25.49	0.0	0.000312
0.07	16.0	90.0	0.07	0.0003	35.01	25.48	0.0	0.000312
0.07	18.0	90.0	0.07	0.0003	35.01	25.48	0.0	0.000312
0.07	20.0	90.0	0.07	0.0003	35.01	25.47	0.0	0.000312
0.07	22.0	90.0	0.07	0.0003	35.01	25.46	0.0	0.000312
0.07	24.0	90.0	0.07	0.0003	35.01	25.46	0.0	0.000312
0.07	26.0	90.0	0.07	0.0003	35.01	25.46	0.0	0.000312
0.07	28.0	90.0	0.07	0.0003	35.01	25.46	0.0	0.000312
0.07	30.0	90.0	0.07	0.0003	35.01	25.46	0.0	0.000312
0.07	32.0	90.0	0.07	0.0003	35.01	25.46	0.0	0.000312
0.07	33.0	90.0	0.07	0.0003	35.01	25.46	0.0	0.000312
0.07	34.0	90.0	0.07	0.0003				
Ttl-flo Temp								
	(MGD)	(C)						
15.92	28.04							
Froude number:		6.419						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	

Kailua_min8.txt							
20	105.4	0.07	7.245	67.3	1.475	-0.241	0.351;
40	105.4	0.07	10.53	45.29	2.182	-0.563	0.843;
60	105.3	0.07	15.11	30.48	3.232	-0.979	1.521;
80	105.0	0.07	21.18	20.51	4.793	-1.487	2.429;
100	104.5	0.07	28.67	13.8	7.111	-2.053	3.566;
120	103.5	0.07	37.59	9.289	10.56	-2.587	4.818;
140	102.2	0.07	48.41	6.251	15.68	-3.063	6.172;
160	100.6	0.07	61.8	4.207	23.28	-3.483	7.683;
180	98.46	0.07	78.59	2.831	34.59	-3.857	9.438;
200	95.85	0.07	99.71	1.905	51.39	-4.189	11.54;
220	92.66	0.07	126.3	1.282	76.35	-4.484	14.14; merging,
240	87.53	0.07	170.4	0.863	113.4	-4.819	18.33;
260	79.57	0.07	244.2	0.58	168.6	-5.172	24.66;
280	67.45	0.07	358.2	0.391	250.5	-5.532	34.01;
295	54.53	0.07	484.0	0.29	337.1	-5.805	43.83; axial vel
0.0221 max dilution reached							
300	49.3	0.07	536.0	0.263	372.2	-5.896	47.81;
320	23.37	0.07	853.7	0.177	553.0	-6.267	68.51; axial vel
0.0834	321	21.87	0.07	876.8	0.173	564.1	-6.287
(trap1)surface,							
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 175.08 m							
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
(ppm)	(m)	(m)	(m)	(hrs)			
0.17261	566.0	176.1	25.0	0.0144	0.0	21.2	0.07 3.00E-4
0.17272	565.3	177.5	30.0	0.0343	0.0	21.2	0.07 3.00E-4
0.17274	565.0	179.0	35.0	0.0541	0.0	21.2	0.07 3.00E-4
0.17272	564.8	180.4	40.0	0.074	0.0	21.2	0.07 3.00E-4
0.17268	564.7	181.7	45.0	0.0938	0.0	21.2	0.07 3.00E-4
0.17264	564.6	183.1	50.0	0.114	0.0	21.2	0.07 3.00E-4
0.17259	564.5	184.5	55.0	0.133	0.0	21.2	0.07 3.00E-4
0.17253	564.5	185.9	60.0	0.153	0.0	21.2	0.07 3.00E-4
0.17247	564.4	187.2	65.0	0.173	0.0	21.2	0.07 3.00E-4
0.17241	564.4	188.6	70.0	0.193	0.0	21.2	0.07 3.00E-4
0.17234	564.4	189.9	75.0	0.213	0.0	21.2	0.07 3.00E-4
0.17227	564.3	191.2	80.0	0.233	0.0	21.2	0.07 3.00E-4
0.17219	564.3	192.5	85.0	0.253	0.0	21.2	0.07 3.00E-4
0.17211	564.4	193.8	90.0	0.272	0.0	21.2	0.07 3.00E-4
0.17201	564.4	195.1	95.0	0.292	0.0	21.2	0.07 3.00E-4
0.17191	564.5	196.4	100.0	0.312	0.0	21.2	0.07 3.00E-4
0.17179	564.7	197.7	105.0	0.332	0.0	21.2	0.07 3.00E-4
0.17166	564.9	198.9	110.0	0.352	0.0	21.2	0.07 3.00E-4
0.17151	565.1	200.2	115.0	0.372	0.0	21.2	0.07 3.00E-4
0.17135	565.4	201.5	120.0	0.391	0.0	21.2	0.07 3.00E-4
0.17117	565.8	202.7	125.0	0.411	0.0	21.2	0.07 3.00E-4
0.17097	566.2	204.0	130.0	0.431	0.0	21.2	0.07 3.00E-4
0.17075	566.7	205.2	135.0	0.451	0.0	21.2	0.07 3.00E-4
0.17052	567.2	206.4	140.0	0.471	0.0	21.2	0.07 3.00E-4
0.17026	567.9	207.6	145.0	0.491	0.0	21.2	0.07 3.00E-4
0.16999	568.5	208.8	150.0	0.51	0.0	21.2	0.07 3.00E-4
0.16971	569.2	210.0	155.0	0.53	0.0	21.2	0.07 3.00E-4
0.16942	570.0	211.2	160.0	0.55	0.0	21.2	0.07 3.00E-4
0.16911	570.8	212.4	165.0	0.57	0.0	21.2	0.07 3.00E-4
0.16878	571.7	213.6	170.0	0.59	0.0	21.2	0.07 3.00E-4
0.16844	572.6	214.8	175.0	0.61	0.0	21.2	0.07 3.00E-4
0.16809	573.5	215.9	180.0	0.63	0.0	21.2	0.07 3.00E-4
0.16773	574.6	217.1	185.0	0.649	0.0	21.2	0.07 3.00E-4
0.16736	575.6	218.3	190.0	0.669	0.0	21.2	0.07 3.00E-4
0.16697	576.7	219.4	195.0	0.689	0.0	21.2	0.07 3.00E-4
0.16658	577.8	220.6	200.0	0.709	0.0	21.2	0.07 3.00E-4
0.16617	579.0	221.7	205.0	0.729	0.0	21.2	0.07 3.00E-4
0.16576	580.2	222.8	210.0	0.749	0.0	21.2	0.07 3.00E-4

					Kailua_min8.txt			
0.16534	581.5	224.0	215.0	0.768	0.0	21.2	0.07	3.00E-4
0.16492	582.7	225.1	220.0	0.788	0.0	21.2	0.07	3.00E-4
0.16448	584.1	226.2	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.16404	585.4	227.3	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.16359	586.8	228.4	235.0	0.848	0.0	21.2	0.07	3.00E-4
0.16312	588.3	229.5	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.16266	589.7	230.6	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.1622	591.1	231.7	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.16173	592.6	232.8	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.16126	594.1	233.9	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.16079	595.6	234.9	265.0	0.967	0.0	21.2	0.07	3.00E-4
0.16031	597.2	236.0	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.15984	598.7	237.1	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.15937	600.3	238.1	280.0	1.026	0.0	21.2	0.07	3.00E-4
0.15888	601.9	239.2	285.0	1.046	0.0	21.2	0.07	3.00E-4
0.1584	603.5	240.2	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.15792	605.1	241.3	295.0	1.086	0.0	21.2	0.07	3.00E-4
0.15743	606.7	242.3	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.15694	608.4	243.4	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 59; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg	Amb-dir Disprsn m0.67/s2	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	0.07	90.0	34.96	25.49	0.0	0.000312
	90.0	0.07	0.0003				
0.07	2.0	0.07	90.0	34.96	25.49	0.0	0.000312
	90.0	0.07	0.0003				
0.07	4.0	0.07	90.0	34.97	25.48	0.0	0.000312
	90.0	0.07	0.0003				
0.07	6.0	0.07	90.0	34.97	25.48	0.0	0.000312
	90.0	0.07	0.0003				
0.07	8.0	0.07	90.0	34.97	25.48	0.0	0.000312
	90.0	0.07	0.0003				
0.07	10.0	0.07	90.0	34.98	25.47	0.0	0.000312
	90.0	0.07	0.0003				
0.07	12.0	0.07	90.0	34.98	25.48	0.0	0.000312
	90.0	0.07	0.0003				
0.07	14.0	0.07	90.0	35.01	25.49	0.0	0.000312
	90.0	0.07	0.0003				
0.07	16.0	0.07	90.0	35.01	25.48	0.0	0.000312
	90.0	0.07	0.0003				
0.07	18.0	0.07	90.0	35.01	25.48	0.0	0.000312
	90.0	0.07	0.0003				
0.07	20.0	0.07	90.0	35.01	25.47	0.0	0.000312
	90.0	0.07	0.0003				
0.07	22.0	0.07	90.0	35.01	25.46	0.0	0.000312
	90.0	0.07	0.0003				
0.07	24.0	0.07	90.0	35.01	25.46	0.0	0.000312
	90.0	0.07	0.0003				
0.07	26.0	0.07	90.0	35.01	25.46	0.0	0.000312
	90.0	0.07	0.0003				
0.07	28.0	0.07	90.0	35.01	25.46	0.0	0.000312
	90.0	0.07	0.0003				
0.07	30.0	0.07	90.0	35.01	25.46	0.0	0.000312
	90.0	0.07	0.0003				
0.07	32.0	0.07	90.0	35.01	25.46	0.0	0.000312
	90.0	0.07	0.0003				
0.07	33.0	0.07	90.0	35.01	25.46	0.0	0.000312
	90.0	0.07	0.0003				

Kailua_min8.txt

Tt1-flo Temp
 (MGD) (C)
 14.49 28.04

Froude number: 5.842

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.236	67.3	1.475	-0.237	0.346
40	105.4	0.07	10.49	45.29	2.182	-0.552	0.83
60	105.3	0.07	14.98	30.48	3.232	-0.953	1.492
80	105.0	0.07	20.84	20.51	4.793	-1.436	2.372
100	104.4	0.07	27.95	13.8	7.111	-1.952	3.437
120	103.5	0.07	36.42	9.289	10.56	-2.426	4.592
140	102.2	0.07	46.76	6.251	15.68	-2.846	5.848
160	100.6	0.07	59.61	4.207	23.28	-3.219	7.264
180	98.58	0.07	75.74	2.831	34.59	-3.549	8.924
200	96.08	0.07	96.04	1.905	51.39	-3.843	10.93
220	93.04	0.07	121.6	1.282	76.35	-4.104	13.42
223	92.54	0.07	126.0	1.208	81.02	-4.141	13.84; merging,
240	88.47	0.07	162.0	0.863	113.4	-4.385	17.25
260	81.26	0.07	230.9	0.58	168.6	-4.689	23.18
280	70.28	0.07	337.7	0.391	250.5	-5.0	32.01
299	54.81	0.07	493.4	0.268	364.9	-5.298	44.27; axial vel
0.0217	max dilution reached						
300	53.83	0.07	503.6	0.263	372.2	-5.314	45.06
320	30.04	0.07	787.1	0.177	553.0	-5.633	64.5
325	22.96	0.07	894.8	0.16	610.6	-5.715	70.86; axial vel

0.0854 (trap1)surface,

Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 175.53 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	Polutnt (ppm)	Clly/hr	(m/s)	(m ^{0.67} /s ²)
0.15944	612.7	176.5	25.0	0.0132	0.0	21.2	0.07	3.00E-4
0.15956	612.0	177.9	30.0	0.0331	0.0	21.2	0.07	3.00E-4
0.15957	611.6	179.3	35.0	0.0529	0.0	21.2	0.07	3.00E-4
0.15956	611.4	180.7	40.0	0.0727	0.0	21.2	0.07	3.00E-4
0.15953	611.3	182.1	45.0	0.0926	0.0	21.2	0.07	3.00E-4
0.15948	611.2	183.5	50.0	0.112	0.0	21.2	0.07	3.00E-4
0.15944	611.1	184.9	55.0	0.132	0.0	21.2	0.07	3.00E-4
0.15939	611.0	186.2	60.0	0.152	0.0	21.2	0.07	3.00E-4
0.15933	610.9	187.6	65.0	0.172	0.0	21.2	0.07	3.00E-4
0.15927	610.9	188.9	70.0	0.192	0.0	21.2	0.07	3.00E-4
0.15921	610.9	190.3	75.0	0.212	0.0	21.2	0.07	3.00E-4
0.15915	610.9	191.6	80.0	0.231	0.0	21.2	0.07	3.00E-4
0.15908	610.9	192.9	85.0	0.251	0.0	21.2	0.07	3.00E-4
0.159	610.9	194.2	90.0	0.271	0.0	21.2	0.07	3.00E-4
0.15891	611.0	195.5	95.0	0.291	0.0	21.2	0.07	3.00E-4
0.15882	611.1	196.8	100.0	0.311	0.0	21.2	0.07	3.00E-4
0.15871	611.2	198.1	105.0	0.331	0.0	21.2	0.07	3.00E-4
0.15859	611.4	199.4	110.0	0.351	0.0	21.2	0.07	3.00E-4
0.15845	611.7	200.6	115.0	0.37	0.0	21.2	0.07	3.00E-4
0.1583	612.0	201.9	120.0	0.39	0.0	21.2	0.07	3.00E-4
0.15814	612.4	203.1	125.0	0.41	0.0	21.2	0.07	3.00E-4
0.15796	612.8	204.4	130.0	0.43	0.0	21.2	0.07	3.00E-4
0.15776	613.3	205.6	135.0	0.45	0.0	21.2	0.07	3.00E-4
0.15755	613.9	206.8	140.0	0.47	0.0	21.2	0.07	3.00E-4
0.15731	614.6	208.0	145.0	0.489	0.0	21.2	0.07	3.00E-4
0.15706	615.3	209.2	150.0	0.509	0.0	21.2	0.07	3.00E-4
0.15681	616.1	210.5	155.0	0.529	0.0	21.2	0.07	3.00E-4
0.15653	616.9	211.7	160.0	0.549	0.0	21.2	0.07	3.00E-4
0.15625	617.7	212.8	165.0	0.569	0.0	21.2	0.07	3.00E-4
0.15595	618.7	214.0	170.0	0.589	0.0	21.2	0.07	3.00E-4
0.15564	619.7	215.2	175.0	0.608	0.0	21.2	0.07	3.00E-4

Kailua_min8.txt

0.15532	620.7	216.4	180.0	0.628	0.0	21.2	0.07	3.00E-4
0.15498	621.8	217.5	185.0	0.648	0.0	21.2	0.07	3.00E-4
0.15464	622.9	218.7	190.0	0.668	0.0	21.2	0.07	3.00E-4
0.15429	624.1	219.9	195.0	0.688	0.0	21.2	0.07	3.00E-4
0.15393	625.3	221.0	200.0	0.708	0.0	21.2	0.07	3.00E-4
0.15355	626.6	222.1	205.0	0.728	0.0	21.2	0.07	3.00E-4
0.15317	627.9	223.3	210.0	0.747	0.0	21.2	0.07	3.00E-4
0.15279	629.2	224.4	215.0	0.767	0.0	21.2	0.07	3.00E-4
0.1524	630.6	225.5	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.152	632.0	226.6	225.0	0.807	0.0	21.2	0.07	3.00E-4
0.15159	633.5	227.8	230.0	0.827	0.0	21.2	0.07	3.00E-4
0.15117	635.0	228.9	235.0	0.847	0.0	21.2	0.07	3.00E-4
0.15074	636.5	230.0	240.0	0.866	0.0	21.2	0.07	3.00E-4
0.15032	638.1	231.1	245.0	0.886	0.0	21.2	0.07	3.00E-4
0.1499	639.6	232.2	250.0	0.906	0.0	21.2	0.07	3.00E-4
0.14947	641.2	233.2	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.14903	642.8	234.3	260.0	0.946	0.0	21.2	0.07	3.00E-4
0.1486	644.5	235.4	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.14815	646.2	236.5	270.0	0.985	0.0	21.2	0.07	3.00E-4
0.14772	647.8	237.5	275.0	1.005	0.0	21.2	0.07	3.00E-4
0.14728	649.5	238.6	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.14684	651.2	239.7	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.14639	652.9	240.7	290.0	1.065	0.0	21.2	0.07	3.00E-4
0.14595	654.7	241.8	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.1455	656.5	242.8	300.0	1.104	0.0	21.2	0.07	3.00E-4
0.14505	658.2	243.8	305.0	1.124	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 60; ambient file C:\Plumes\Kailua_min8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	90.0	0.07	0.0003	34.96	25.49	0.0	0.000312
0.07	2.0	90.0	0.07	0.0003	34.96	25.49	0.0	0.000312
0.07	4.0	90.0	0.07	0.0003	34.97	25.48	0.0	0.000312
0.07	6.0	90.0	0.07	0.0003	34.97	25.48	0.0	0.000312
0.07	8.0	90.0	0.07	0.0003	34.97	25.48	0.0	0.000312
0.07	10.0	90.0	0.07	0.0003	34.98	25.47	0.0	0.000312
0.07	12.0	90.0	0.07	0.0003	34.98	25.48	0.0	0.000312
0.07	14.0	90.0	0.07	0.0003	35.01	25.49	0.0	0.000312
0.07	16.0	90.0	0.07	0.0003	35.01	25.48	0.0	0.000312
0.07	18.0	90.0	0.07	0.0003	35.01	25.48	0.0	0.000312
0.07	20.0	90.0	0.07	0.0003	35.01	25.47	0.0	0.000312
0.07	22.0	90.0	0.07	0.0003	35.01	25.46	0.0	0.000312
0.07	24.0	90.0	0.07	0.0003	35.01	25.46	0.0	0.000312
0.07	26.0	90.0	0.07	0.0003	35.01	25.46	0.0	0.000312
0.07	28.0	90.0	0.07	0.0003	35.01	25.46	0.0	0.000312

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0.07	90.0	0.0003						
	30.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
	32.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
	33.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
18.75	28.04							
Froude number:	7.56							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.259	67.3	1.475	-0.246	0.358;	
40	105.4	0.07	10.58	45.29	2.182	-0.581	0.864;	
60	105.3	0.07	15.28	30.48	3.232	-1.021	1.568;	
80	105.1	0.07	21.68	20.51	4.793	-1.572	2.522;	
100	104.6	0.07	29.82	13.8	7.111	-2.219	3.767;	
120	103.7	0.07	39.59	9.289	10.56	-2.869	5.203;	
140	102.3	0.07	51.34	6.251	15.68	-3.457	6.751;	
160	100.6	0.07	65.77	4.207	23.28	-3.978	8.452;	
180	98.3	0.07	83.77	2.831	34.59	-4.44	10.39;	
200	95.47	0.07	106.4	1.905	51.39	-4.85	12.69;	
216	92.74	0.07	128.6	1.388	70.54	-5.148	14.9; merging,	
220	91.83	0.07	135.4	1.282	76.35	-5.232	15.64;	
240	85.73	0.07	186.3	0.863	113.4	-5.673	20.42;	
260	76.3	0.07	269.0	0.58	168.6	-6.131	27.47;	
280	61.94	0.07	396.7	0.39	250.5	-6.595	37.79; axial vel	
0.017								
286	56.38	0.07	447.8	0.347	282.1	-6.735	41.75; max dilution	
reached								
300	40.46	0.07	597.2	0.263	372.2	-7.065	53.03;	
314	20.4	0.07	841.9	0.199	491.1	-7.401	68.1; axial vel	
0.0997	(trap1) surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.19	
m	conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.19831	492.6	175.4	25.0	0.0164	0.0	21.2	0.07	3.00E-4
0.19842	492.1	176.8	30.0	0.0362	0.0	21.2	0.07	3.00E-4
0.19844	491.9	178.2	35.0	0.056	0.0	21.2	0.07	3.00E-4
0.19841	491.7	179.6	40.0	0.0759	0.0	21.2	0.07	3.00E-4
0.19837	491.6	181.0	45.0	0.0957	0.0	21.2	0.07	3.00E-4
0.19832	491.5	182.4	50.0	0.116	0.0	21.2	0.07	3.00E-4
0.19826	491.5	183.7	55.0	0.135	0.0	21.2	0.07	3.00E-4
0.19819	491.4	185.1	60.0	0.155	0.0	21.2	0.07	3.00E-4
0.19813	491.4	186.4	65.0	0.175	0.0	21.2	0.07	3.00E-4
0.19805	491.3	187.8	70.0	0.195	0.0	21.2	0.07	3.00E-4
0.19798	491.3	189.1	75.0	0.215	0.0	21.2	0.07	3.00E-4
0.19789	491.3	190.4	80.0	0.235	0.0	21.2	0.07	3.00E-4
0.1978	491.3	191.7	85.0	0.254	0.0	21.2	0.07	3.00E-4
0.1977	491.3	193.0	90.0	0.274	0.0	21.2	0.07	3.00E-4
0.1976	491.4	194.3	95.0	0.294	0.0	21.2	0.07	3.00E-4
0.19747	491.5	195.6	100.0	0.314	0.0	21.2	0.07	3.00E-4
0.19733	491.6	196.9	105.0	0.334	0.0	21.2	0.07	3.00E-4
0.19718	491.8	198.1	110.0	0.354	0.0	21.2	0.07	3.00E-4
0.19701	492.0	199.4	115.0	0.373	0.0	21.2	0.07	3.00E-4
0.19682	492.3	200.6	120.0	0.393	0.0	21.2	0.07	3.00E-4
0.1966	492.6	201.9	125.0	0.413	0.0	21.2	0.07	3.00E-4
0.19637	493.0	203.1	130.0	0.433	0.0	21.2	0.07	3.00E-4
0.19612	493.4	204.4	135.0	0.453	0.0	21.2	0.07	3.00E-4
0.19585	493.9	205.6	140.0	0.473	0.0	21.2	0.07	3.00E-4

	Kailua_min8.txt						
0.19555	494.5	206.8	145.0	0.493	0.0	21.2	0.07 3.00E-4
0.19524	495.0	208.0	150.0	0.512	0.0	21.2	0.07 3.00E-4
0.19491	495.7	209.2	155.0	0.532	0.0	21.2	0.07 3.00E-4
0.19456	496.3	210.4	160.0	0.552	0.0	21.2	0.07 3.00E-4
0.1942	497.1	211.6	165.0	0.572	0.0	21.2	0.07 3.00E-4
0.19382	497.8	212.8	170.0	0.592	0.0	21.2	0.07 3.00E-4
0.19343	498.6	213.9	175.0	0.612	0.0	21.2	0.07 3.00E-4
0.19303	499.5	215.1	180.0	0.631	0.0	21.2	0.07 3.00E-4
0.1926	500.4	216.2	185.0	0.651	0.0	21.2	0.07 3.00E-4
0.19218	501.3	217.4	190.0	0.671	0.0	21.2	0.07 3.00E-4
0.19173	502.3	218.6	195.0	0.691	0.0	21.2	0.07 3.00E-4
0.19127	503.3	219.7	200.0	0.711	0.0	21.2	0.07 3.00E-4
0.1908	504.3	220.8	205.0	0.731	0.0	21.2	0.07 3.00E-4
0.19032	505.4	222.0	210.0	0.75	0.0	21.2	0.07 3.00E-4
0.18985	506.5	223.1	215.0	0.77	0.0	21.2	0.07 3.00E-4
0.18935	507.6	224.2	220.0	0.79	0.0	21.2	0.07 3.00E-4
0.18885	508.7	225.3	225.0	0.81	0.0	21.2	0.07 3.00E-4
0.18833	509.9	226.4	230.0	0.83	0.0	21.2	0.07 3.00E-4
0.18781	511.1	227.5	235.0	0.85	0.0	21.2	0.07 3.00E-4
0.18727	512.4	228.6	240.0	0.87	0.0	21.2	0.07 3.00E-4
0.18675	513.7	229.7	245.0	0.889	0.0	21.2	0.07 3.00E-4
0.18621	514.9	230.8	250.0	0.909	0.0	21.2	0.07 3.00E-4
0.18567	516.2	231.9	255.0	0.929	0.0	21.2	0.07 3.00E-4
0.18513	517.6	233.0	260.0	0.949	0.0	21.2	0.07 3.00E-4
0.18458	518.9	234.0	265.0	0.969	0.0	21.2	0.07 3.00E-4
0.18403	520.3	235.1	270.0	0.989	0.0	21.2	0.07 3.00E-4
0.18349	521.6	236.2	275.0	1.008	0.0	21.2	0.07 3.00E-4
0.18294	522.9	237.2	280.0	1.028	0.0	21.2	0.07 3.00E-4
0.18239	524.3	238.3	285.0	1.048	0.0	21.2	0.07 3.00E-4
0.18183	525.7	239.3	290.0	1.068	0.0	21.2	0.07 3.00E-4
0.18127	527.2	240.4	295.0	1.088	0.0	21.2	0.07 3.00E-4
0.18071	528.6	241.4	300.0	1.108	0.0	21.2	0.07 3.00E-4
0.18014	530.1	242.4	305.0	1.127	0.0	21.2	0.07 3.00E-4

count: 57

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10:42:22 AM. amb fills: 2

ATTACHMENT 6

KAILUA WWTP PLUMES MODEL
INPUT/OUTPUT FILES
FOR
DESIGN FLOW CASES

Kailua_avg8.txt

/ windows UM3. 9/10/2013 10:41:04 AM
Case 1; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad		
m/s	m	m/s	deg	psu	c	kg/kg	s-1		
	deg	m0.67/s2							
0.07	0.0	0.07	90.0	35.08	24.09	0.0	0.000312		
0.07	90.0	0.0003							
0.07	2.0	0.07	90.0	35.08	24.09	0.0	0.000312		
0.07	90.0	0.0003							
0.07	4.0	0.07	90.0	35.08	24.09	0.0	0.000312		
0.07	90.0	0.0003							
0.07	6.0	0.07	90.0	35.07	24.09	0.0	0.000312		
0.07	90.0	0.0003							
0.07	8.0	0.07	90.0	35.07	24.09	0.0	0.000312		
0.07	90.0	0.0003							
0.07	10.0	0.07	90.0	35.07	24.09	0.0	0.000312		
0.07	90.0	0.0003							
0.07	12.0	0.07	90.0	35.07	24.08	0.0	0.000312		
0.07	90.0	0.0003							
0.07	14.0	0.07	90.0	35.07	24.07	0.0	0.000312		
0.07	90.0	0.0003							
0.07	16.0	0.07	90.0	35.07	24.07	0.0	0.000312		
0.07	90.0	0.0003							
0.07	18.0	0.07	90.0	35.06	24.04	0.0	0.000312		
0.07	90.0	0.0003							
0.07	20.0	0.07	90.0	35.06	24.03	0.0	0.000312		
0.07	90.0	0.0003							
0.07	22.0	0.07	90.0	35.07	24.02	0.0	0.000312		
0.07	90.0	0.0003							
0.07	24.0	0.07	90.0	35.05	24.01	0.0	0.000312		
0.07	90.0	0.0003							
0.07	26.0	0.07	90.0	35.07	23.96	0.0	0.000312		
0.07	90.0	0.0003							
0.07	28.0	0.07	90.0	35.06	23.91	0.0	0.000312		
0.07	90.0	0.0003							
0.07	30.0	0.07	90.0	35.03	23.87	0.0	0.000312		
0.07	90.0	0.0003							
0.07	32.0	0.07	90.0	35.07	23.73	0.0	0.000312		
0.07	90.0	0.0003							
0.07	33.0	0.07	90.0	35.06	23.72	0.0	0.000312		
0.07	90.0	0.0003							
	P-dia	P-elev	V-angle	H-angle	Ports	Spacing	SttTime	EndTime	Incrmnt
	(in)	(ft)	(deg)	(deg)	()	(ft)	(hr)	(hr)	(hr)
5.004	2.0	0.0	125.0	52.0	12.0	1.0	60.0	1.0	
AcuteMZ	ChrncMZ	P-depth	Ttl-flo	Eff-sal	Temp	Polutnt			
	(m)	(m)	(ft)	(MGD)	(psu)	(C)	(ppm)		
64.5	305.0	105.45	15.25	6.9	28.04	100.0			
Froude number:	6.071								
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn		
	(ft)	(m/s)	(in)	(ppm)	()	(ft)	(ft)		
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0		
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349		
40	105.4	0.07	10.51	45.29	2.181	-0.558	0.837		
60	105.3	0.07	15.04	30.48	3.231	-0.967	1.507		
80	105.0	0.07	21.0	20.51	4.791	-1.463	2.4		
100	104.4	0.07	28.26	13.8	7.108	-2.002	3.499		
120	103.5	0.07	36.91	9.289	10.55	-2.504	4.695		
140	102.2	0.07	47.46	6.251	15.67	-2.95	5.991		
160	100.5	0.07	60.61	4.207	23.27	-3.344	7.447		
180	98.47	0.07	77.24	2.831	34.57	-3.696	9.148		
200	95.92	0.07	98.26	1.905	51.36	-4.009	11.21		

	Kailua_avg8.txt						
220	92.82	0.07	124.5	1.282	76.31	-4.29	13.76;
221	92.65	0.07	126.0	1.257	77.84	-4.303	13.91; merging,
240	87.96	0.07	167.1	0.863	113.4	-4.602	17.83;
260	80.41	0.07	241.3	0.58	168.5	-4.935	24.02;
280	69.21	0.07	365.2	0.391	250.3	-5.282	33.43;
297	55.37	0.07	522.9	0.279	350.5	-5.591	45.27; axial vel
0.0216	max dilution reached						
300	52.44	0.07	558.0	0.263	372.0	-5.646	47.84;
320	27.78	0.07	862.9	0.177	552.7	-6.029	70.09;
322	24.8	0.07	902.9	0.17	575.1	-6.068	72.89; axial vel
0.079	surface,						
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						175.74
m							

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16916	577.2	176.5	25.0	0.0107	0.0	21.2	0.07 3.00E-4
0.16931	576.5	177.9	30.0	0.0306	0.0	21.2	0.07 3.00E-4
0.16933	576.1	179.4	35.0	0.0504	0.0	21.2	0.07 3.00E-4
0.16932	575.9	180.8	40.0	0.0703	0.0	21.2	0.07 3.00E-4
0.16929	575.8	182.2	45.0	0.0901	0.0	21.2	0.07 3.00E-4
0.16925	575.7	183.5	50.0	0.11	0.0	21.2	0.07 3.00E-4
0.1692	575.6	184.9	55.0	0.13	0.0	21.2	0.07 3.00E-4
0.16914	575.5	186.3	60.0	0.15	0.0	21.2	0.07 3.00E-4
0.16908	575.4	187.6	65.0	0.169	0.0	21.2	0.07 3.00E-4
0.16902	575.4	189.0	70.0	0.189	0.0	21.2	0.07 3.00E-4
0.16896	575.4	190.3	75.0	0.209	0.0	21.2	0.07 3.00E-4
0.16889	575.4	191.6	80.0	0.229	0.0	21.2	0.07 3.00E-4
0.16882	575.4	193.0	85.0	0.249	0.0	21.2	0.07 3.00E-4
0.16873	575.4	194.3	90.0	0.269	0.0	21.2	0.07 3.00E-4
0.16864	575.4	195.6	95.0	0.289	0.0	21.2	0.07 3.00E-4
0.16854	575.5	196.9	100.0	0.308	0.0	21.2	0.07 3.00E-4
0.16843	575.7	198.1	105.0	0.328	0.0	21.2	0.07 3.00E-4
0.16831	575.9	199.4	110.0	0.348	0.0	21.2	0.07 3.00E-4
0.16817	576.1	200.7	115.0	0.368	0.0	21.2	0.07 3.00E-4
0.16801	576.4	201.9	120.0	0.388	0.0	21.2	0.07 3.00E-4
0.16784	576.7	203.2	125.0	0.408	0.0	21.2	0.07 3.00E-4
0.16765	577.1	204.4	130.0	0.427	0.0	21.2	0.07 3.00E-4
0.16744	577.6	205.7	135.0	0.447	0.0	21.2	0.07 3.00E-4
0.16722	578.1	206.9	140.0	0.467	0.0	21.2	0.07 3.00E-4
0.16696	578.8	208.1	145.0	0.487	0.0	21.2	0.07 3.00E-4
0.16671	579.4	209.3	150.0	0.507	0.0	21.2	0.07 3.00E-4
0.16644	580.1	210.5	155.0	0.527	0.0	21.2	0.07 3.00E-4
0.16615	580.9	211.7	160.0	0.546	0.0	21.2	0.07 3.00E-4
0.16585	581.7	212.9	165.0	0.566	0.0	21.2	0.07 3.00E-4
0.16554	582.6	214.1	170.0	0.586	0.0	21.2	0.07 3.00E-4
0.16521	583.5	215.3	175.0	0.606	0.0	21.2	0.07 3.00E-4
0.16487	584.5	216.5	180.0	0.626	0.0	21.2	0.07 3.00E-4
0.16452	585.5	217.6	185.0	0.646	0.0	21.2	0.07 3.00E-4
0.16415	586.6	218.8	190.0	0.665	0.0	21.2	0.07 3.00E-4
0.16378	587.6	219.9	195.0	0.685	0.0	21.2	0.07 3.00E-4
0.1634	588.8	221.1	200.0	0.705	0.0	21.2	0.07 3.00E-4
0.16301	590.0	222.2	205.0	0.725	0.0	21.2	0.07 3.00E-4
0.1626	591.2	223.4	210.0	0.745	0.0	21.2	0.07 3.00E-4
0.1622	592.5	224.5	215.0	0.765	0.0	21.2	0.07 3.00E-4
0.16178	593.7	225.6	220.0	0.785	0.0	21.2	0.07 3.00E-4
0.16136	595.1	226.7	225.0	0.804	0.0	21.2	0.07 3.00E-4
0.16093	596.4	227.8	230.0	0.824	0.0	21.2	0.07 3.00E-4
0.16049	597.8	229.0	235.0	0.844	0.0	21.2	0.07 3.00E-4
0.16003	599.3	230.1	240.0	0.864	0.0	21.2	0.07 3.00E-4
0.15959	600.8	231.2	245.0	0.884	0.0	21.2	0.07 3.00E-4
0.15914	602.2	232.2	250.0	0.904	0.0	21.2	0.07 3.00E-4
0.15868	603.7	233.3	255.0	0.923	0.0	21.2	0.07 3.00E-4
0.15822	605.2	234.4	260.0	0.943	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt								
0.15776	606.8	235.5	265.0	0.963	0.0	21.2	0.07	3.00E-4
0.15729	608.3	236.6	270.0	0.983	0.0	21.2	0.07	3.00E-4
0.15684	609.9	237.6	275.0	1.003	0.0	21.2	0.07	3.00E-4
0.15637	611.5	238.7	280.0	1.023	0.0	21.2	0.07	3.00E-4
0.1559	613.1	239.8	285.0	1.042	0.0	21.2	0.07	3.00E-4
0.15543	614.7	240.8	290.0	1.062	0.0	21.2	0.07	3.00E-4
0.15495	616.4	241.9	295.0	1.082	0.0	21.2	0.07	3.00E-4
0.15448	618.0	242.9	300.0	1.102	0.0	21.2	0.07	3.00E-4
0.154	619.7	243.9	305.0	1.122	0.0	21.2	0.07	3.00E-4

count: 57

/ windows UM3.

Case 2; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
m/s	Far-dir	Disprsn	psu	c	kg/kg	s-1	
m/s	deg	m/s ^{0.67} /s ²	deg				
0.07	0.0	0.07	90.0	35.08	24.09	0.0	0.000312
0.07	90.0	0.0003					
0.07	2.0	0.07	90.0	35.08	24.09	0.0	0.000312
0.07	90.0	0.0003					
0.07	4.0	0.07	90.0	35.08	24.09	0.0	0.000312
0.07	90.0	0.0003					
0.07	6.0	0.07	90.0	35.07	24.09	0.0	0.000312
0.07	90.0	0.0003					
0.07	8.0	0.07	90.0	35.07	24.09	0.0	0.000312
0.07	90.0	0.0003					
0.07	10.0	0.07	90.0	35.07	24.09	0.0	0.000312
0.07	90.0	0.0003					
0.07	12.0	0.07	90.0	35.07	24.08	0.0	0.000312
0.07	90.0	0.0003					
0.07	14.0	0.07	90.0	35.07	24.07	0.0	0.000312
0.07	90.0	0.0003					
0.07	16.0	0.07	90.0	35.07	24.07	0.0	0.000312
0.07	90.0	0.0003					
0.07	18.0	0.07	90.0	35.06	24.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	20.0	0.07	90.0	35.06	24.03	0.0	0.000312
0.07	90.0	0.0003					
0.07	22.0	0.07	90.0	35.07	24.02	0.0	0.000312
0.07	90.0	0.0003					
0.07	24.0	0.07	90.0	35.05	24.01	0.0	0.000312
0.07	90.0	0.0003					
0.07	26.0	0.07	90.0	35.07	23.96	0.0	0.000312
0.07	90.0	0.0003					
0.07	28.0	0.07	90.0	35.06	23.91	0.0	0.000312
0.07	90.0	0.0003					
0.07	30.0	0.07	90.0	35.03	23.87	0.0	0.000312
0.07	90.0	0.0003					
0.07	32.0	0.07	90.0	35.07	23.73	0.0	0.000312
0.07	90.0	0.0003					
0.07	33.0	0.07	90.0	35.06	23.72	0.0	0.000312
0.07	90.0	0.0003					

Ttl-flo Temp
(MGD) (C)
15.25 28.04

Froude number: 6.071

Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	()	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.51	45.29	2.181	-0.558	0.837
60	105.3	0.07	15.04	30.48	3.231	-0.967	1.507

Kailua_avg8.txt

80	105.0	0.07	21.0	20.51	4.791	-1.463	2.4;
100	104.4	0.07	28.26	13.8	7.108	-2.002	3.499;
120	103.5	0.07	36.91	9.289	10.55	-2.504	4.695;
140	102.2	0.07	47.46	6.251	15.67	-2.95	5.991;
160	100.5	0.07	60.61	4.207	23.27	-3.344	7.447;
180	98.47	0.07	77.24	2.831	34.57	-3.696	9.148;
200	95.92	0.07	98.26	1.905	51.36	-4.009	11.21;
220	92.82	0.07	124.5	1.282	76.31	-4.29	13.76;
221	92.65	0.07	126.0	1.257	77.84	-4.303	13.91; merging,
240	87.96	0.07	167.1	0.863	113.4	-4.602	17.83;
260	80.41	0.07	241.3	0.58	168.5	-4.935	24.02;
280	69.21	0.07	365.2	0.391	250.3	-5.282	33.43;
297	55.37	0.07	522.9	0.279	350.5	-5.591	45.27; axial vel
0.0216 max dilution reached							
300	52.44	0.07	558.0	0.263	372.0	-5.646	47.84;
320	27.78	0.07	862.9	0.177	552.7	-6.029	70.09;
322	24.8	0.07	902.9	0.17	575.1	-6.068	72.89; axial vel
0.079 surface, Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 175.74 m							
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
(ppm)	(m)	(m)	(m)	(hrs)			
0.16916	577.2	176.5	25.0	0.0107	0.0	21.2	0.07 3.00E-4
0.16931	576.5	177.9	30.0	0.0306	0.0	21.2	0.07 3.00E-4
0.16933	576.1	179.4	35.0	0.0504	0.0	21.2	0.07 3.00E-4
0.16932	575.9	180.8	40.0	0.0703	0.0	21.2	0.07 3.00E-4
0.16929	575.8	182.2	45.0	0.0901	0.0	21.2	0.07 3.00E-4
0.16925	575.7	183.5	50.0	0.11	0.0	21.2	0.07 3.00E-4
0.1692	575.6	184.9	55.0	0.13	0.0	21.2	0.07 3.00E-4
0.16914	575.5	186.3	60.0	0.15	0.0	21.2	0.07 3.00E-4
0.16908	575.4	187.6	65.0	0.169	0.0	21.2	0.07 3.00E-4
0.16902	575.4	189.0	70.0	0.189	0.0	21.2	0.07 3.00E-4
0.16896	575.4	190.3	75.0	0.209	0.0	21.2	0.07 3.00E-4
0.16889	575.4	191.6	80.0	0.229	0.0	21.2	0.07 3.00E-4
0.16882	575.4	193.0	85.0	0.249	0.0	21.2	0.07 3.00E-4
0.16873	575.4	194.3	90.0	0.269	0.0	21.2	0.07 3.00E-4
0.16864	575.4	195.6	95.0	0.289	0.0	21.2	0.07 3.00E-4
0.16854	575.5	196.9	100.0	0.308	0.0	21.2	0.07 3.00E-4
0.16843	575.7	198.1	105.0	0.328	0.0	21.2	0.07 3.00E-4
0.16831	575.9	199.4	110.0	0.348	0.0	21.2	0.07 3.00E-4
0.16817	576.1	200.7	115.0	0.368	0.0	21.2	0.07 3.00E-4
0.16801	576.4	201.9	120.0	0.388	0.0	21.2	0.07 3.00E-4
0.16784	576.7	203.2	125.0	0.408	0.0	21.2	0.07 3.00E-4
0.16765	577.1	204.4	130.0	0.427	0.0	21.2	0.07 3.00E-4
0.16744	577.6	205.7	135.0	0.447	0.0	21.2	0.07 3.00E-4
0.16722	578.1	206.9	140.0	0.467	0.0	21.2	0.07 3.00E-4
0.16696	578.8	208.1	145.0	0.487	0.0	21.2	0.07 3.00E-4
0.16671	579.4	209.3	150.0	0.507	0.0	21.2	0.07 3.00E-4
0.16644	580.1	210.5	155.0	0.527	0.0	21.2	0.07 3.00E-4
0.16615	580.9	211.7	160.0	0.546	0.0	21.2	0.07 3.00E-4
0.16585	581.7	212.9	165.0	0.566	0.0	21.2	0.07 3.00E-4
0.16554	582.6	214.1	170.0	0.586	0.0	21.2	0.07 3.00E-4
0.16521	583.5	215.3	175.0	0.606	0.0	21.2	0.07 3.00E-4
0.16487	584.5	216.5	180.0	0.626	0.0	21.2	0.07 3.00E-4
0.16452	585.5	217.6	185.0	0.646	0.0	21.2	0.07 3.00E-4
0.16415	586.6	218.8	190.0	0.665	0.0	21.2	0.07 3.00E-4
0.16378	587.6	219.9	195.0	0.685	0.0	21.2	0.07 3.00E-4
0.1634	588.8	221.1	200.0	0.705	0.0	21.2	0.07 3.00E-4
0.16301	590.0	222.2	205.0	0.725	0.0	21.2	0.07 3.00E-4
0.1626	591.2	223.4	210.0	0.745	0.0	21.2	0.07 3.00E-4
0.1622	592.5	224.5	215.0	0.765	0.0	21.2	0.07 3.00E-4
0.16178	593.7	225.6	220.0	0.785	0.0	21.2	0.07 3.00E-4
0.16136	595.1	226.7	225.0	0.804	0.0	21.2	0.07 3.00E-4

					Kailua_avg8.txt			
0.16093	596.4	227.8	230.0	0.824	0.0	21.2	0.07	3.00E-4
0.16049	597.8	229.0	235.0	0.844	0.0	21.2	0.07	3.00E-4
0.16003	599.3	230.1	240.0	0.864	0.0	21.2	0.07	3.00E-4
0.15959	600.8	231.2	245.0	0.884	0.0	21.2	0.07	3.00E-4
0.15914	602.2	232.2	250.0	0.904	0.0	21.2	0.07	3.00E-4
0.15868	603.7	233.3	255.0	0.923	0.0	21.2	0.07	3.00E-4
0.15822	605.2	234.4	260.0	0.943	0.0	21.2	0.07	3.00E-4
0.15776	606.8	235.5	265.0	0.963	0.0	21.2	0.07	3.00E-4
0.15729	608.3	236.6	270.0	0.983	0.0	21.2	0.07	3.00E-4
0.15684	609.9	237.6	275.0	1.003	0.0	21.2	0.07	3.00E-4
0.15637	611.5	238.7	280.0	1.023	0.0	21.2	0.07	3.00E-4
0.1559	613.1	239.8	285.0	1.042	0.0	21.2	0.07	3.00E-4
0.15543	614.7	240.8	290.0	1.062	0.0	21.2	0.07	3.00E-4
0.15495	616.4	241.9	295.0	1.082	0.0	21.2	0.07	3.00E-4
0.15448	618.0	242.9	300.0	1.102	0.0	21.2	0.07	3.00E-4
0.154	619.7	243.9	305.0	1.122	0.0	21.2	0.07	3.00E-4

count: 57

/ windows UM3.

Case 3; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
	Far-dir deg	Disprsn m/s ^{0.67} /s ²	deg	psu	C	kg/kg	s-1
0.07	0.0	0.07 0.0003	90.0	35.08	24.09	0.0	0.000312
0.07	2.0	0.07 0.0003	90.0	35.08	24.09	0.0	0.000312
0.07	4.0	0.07 0.0003	90.0	35.08	24.09	0.0	0.000312
0.07	6.0	0.07 0.0003	90.0	35.07	24.09	0.0	0.000312
0.07	8.0	0.07 0.0003	90.0	35.07	24.09	0.0	0.000312
0.07	10.0	0.07 0.0003	90.0	35.07	24.09	0.0	0.000312
0.07	12.0	0.07 0.0003	90.0	35.07	24.08	0.0	0.000312
0.07	14.0	0.07 0.0003	90.0	35.07	24.07	0.0	0.000312
0.07	16.0	0.07 0.0003	90.0	35.07	24.07	0.0	0.000312
0.07	18.0	0.07 0.0003	90.0	35.06	24.04	0.0	0.000312
0.07	20.0	0.07 0.0003	90.0	35.06	24.03	0.0	0.000312
0.07	22.0	0.07 0.0003	90.0	35.07	24.02	0.0	0.000312
0.07	24.0	0.07 0.0003	90.0	35.05	24.01	0.0	0.000312
0.07	26.0	0.07 0.0003	90.0	35.07	23.96	0.0	0.000312
0.07	28.0	0.07 0.0003	90.0	35.06	23.91	0.0	0.000312
0.07	30.0	0.07 0.0003	90.0	35.03	23.87	0.0	0.000312
0.07	32.0	0.07 0.0003	90.0	35.07	23.73	0.0	0.000312
0.07	33.0	0.07 0.0003	90.0	35.06	23.72	0.0	0.000312
0.07	90.0	0.0003					
	Ttl-flo (MGD)	Temp (C)					
	15.25	28.04					

Kailua_avg8.txt

Froude number: 6.071

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.181	-0.558	0.837;
60	105.3	0.07	15.04	30.48	3.231	-0.967	1.507;
80	105.0	0.07	21.0	20.51	4.791	-1.463	2.4;
100	104.4	0.07	28.26	13.8	7.108	-2.002	3.499;
120	103.5	0.07	36.91	9.289	10.55	-2.504	4.695;
140	102.2	0.07	47.46	6.251	15.67	-2.95	5.991;
160	100.5	0.07	60.61	4.207	23.27	-3.344	7.447;
180	98.47	0.07	77.24	2.831	34.57	-3.696	9.148;
200	95.92	0.07	98.26	1.905	51.36	-4.009	11.21;
220	92.82	0.07	124.5	1.282	76.31	-4.29	13.76;
221	92.65	0.07	126.0	1.257	77.84	-4.303	13.91; merging,
240	87.96	0.07	167.1	0.863	113.4	-4.602	17.83;
260	80.41	0.07	241.3	0.58	168.5	-4.935	24.02;
280	69.21	0.07	365.2	0.391	250.3	-5.282	33.43;
297	55.37	0.07	522.9	0.279	350.5	-5.591	45.27; axial vel
0.0216	max dilution reached						
300	52.44	0.07	558.0	0.263	372.0	-5.646	47.84;
320	27.78	0.07	862.9	0.177	552.7	-6.029	70.09;
322	24.8	0.07	902.9	0.17	575.1	-6.068	72.89; axial vel

0.079 surface,

Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 175.74 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16916	577.2	176.5	25.0	0.0107	0.0	21.2	0.07 3.00E-4
0.16931	576.5	177.9	30.0	0.0306	0.0	21.2	0.07 3.00E-4
0.16933	576.1	179.4	35.0	0.0504	0.0	21.2	0.07 3.00E-4
0.16932	575.9	180.8	40.0	0.0703	0.0	21.2	0.07 3.00E-4
0.16929	575.8	182.2	45.0	0.0901	0.0	21.2	0.07 3.00E-4
0.16925	575.7	183.5	50.0	0.11	0.0	21.2	0.07 3.00E-4
0.1692	575.6	184.9	55.0	0.13	0.0	21.2	0.07 3.00E-4
0.16914	575.5	186.3	60.0	0.15	0.0	21.2	0.07 3.00E-4
0.16908	575.4	187.6	65.0	0.169	0.0	21.2	0.07 3.00E-4
0.16902	575.4	189.0	70.0	0.189	0.0	21.2	0.07 3.00E-4
0.16896	575.4	190.3	75.0	0.209	0.0	21.2	0.07 3.00E-4
0.16889	575.4	191.6	80.0	0.229	0.0	21.2	0.07 3.00E-4
0.16882	575.4	193.0	85.0	0.249	0.0	21.2	0.07 3.00E-4
0.16873	575.4	194.3	90.0	0.269	0.0	21.2	0.07 3.00E-4
0.16864	575.4	195.6	95.0	0.289	0.0	21.2	0.07 3.00E-4
0.16854	575.5	196.9	100.0	0.308	0.0	21.2	0.07 3.00E-4
0.16843	575.7	198.1	105.0	0.328	0.0	21.2	0.07 3.00E-4
0.16831	575.9	199.4	110.0	0.348	0.0	21.2	0.07 3.00E-4
0.16817	576.1	200.7	115.0	0.368	0.0	21.2	0.07 3.00E-4
0.16801	576.4	201.9	120.0	0.388	0.0	21.2	0.07 3.00E-4
0.16784	576.7	203.2	125.0	0.408	0.0	21.2	0.07 3.00E-4
0.16765	577.1	204.4	130.0	0.427	0.0	21.2	0.07 3.00E-4
0.16744	577.6	205.7	135.0	0.447	0.0	21.2	0.07 3.00E-4
0.16722	578.1	206.9	140.0	0.467	0.0	21.2	0.07 3.00E-4
0.16696	578.8	208.1	145.0	0.487	0.0	21.2	0.07 3.00E-4
0.16671	579.4	209.3	150.0	0.507	0.0	21.2	0.07 3.00E-4
0.16644	580.1	210.5	155.0	0.527	0.0	21.2	0.07 3.00E-4
0.16615	580.9	211.7	160.0	0.546	0.0	21.2	0.07 3.00E-4
0.16585	581.7	212.9	165.0	0.566	0.0	21.2	0.07 3.00E-4
0.16554	582.6	214.1	170.0	0.586	0.0	21.2	0.07 3.00E-4
0.16521	583.5	215.3	175.0	0.606	0.0	21.2	0.07 3.00E-4
0.16487	584.5	216.5	180.0	0.626	0.0	21.2	0.07 3.00E-4
0.16452	585.5	217.6	185.0	0.646	0.0	21.2	0.07 3.00E-4
0.16415	586.6	218.8	190.0	0.665	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt								
	587.6	219.9	195.0	0.685	0.0	21.2	0.07	3.00E-4
0.16378	588.8	221.1	200.0	0.705	0.0	21.2	0.07	3.00E-4
0.1634	590.0	222.2	205.0	0.725	0.0	21.2	0.07	3.00E-4
0.16301	591.2	223.4	210.0	0.745	0.0	21.2	0.07	3.00E-4
0.1626	592.5	224.5	215.0	0.765	0.0	21.2	0.07	3.00E-4
0.16178	593.7	225.6	220.0	0.785	0.0	21.2	0.07	3.00E-4
0.16136	595.1	226.7	225.0	0.804	0.0	21.2	0.07	3.00E-4
0.16093	596.4	227.8	230.0	0.824	0.0	21.2	0.07	3.00E-4
0.16049	597.8	229.0	235.0	0.844	0.0	21.2	0.07	3.00E-4
0.16003	599.3	230.1	240.0	0.864	0.0	21.2	0.07	3.00E-4
0.15959	600.8	231.2	245.0	0.884	0.0	21.2	0.07	3.00E-4
0.15914	602.2	232.2	250.0	0.904	0.0	21.2	0.07	3.00E-4
0.15868	603.7	233.3	255.0	0.923	0.0	21.2	0.07	3.00E-4
0.15822	605.2	234.4	260.0	0.943	0.0	21.2	0.07	3.00E-4
0.15776	606.8	235.5	265.0	0.963	0.0	21.2	0.07	3.00E-4
0.15729	608.3	236.6	270.0	0.983	0.0	21.2	0.07	3.00E-4
0.15684	609.9	237.6	275.0	1.003	0.0	21.2	0.07	3.00E-4
0.15637	611.5	238.7	280.0	1.023	0.0	21.2	0.07	3.00E-4
0.1559	613.1	239.8	285.0	1.042	0.0	21.2	0.07	3.00E-4
0.15543	614.7	240.8	290.0	1.062	0.0	21.2	0.07	3.00E-4
0.15495	616.4	241.9	295.0	1.082	0.0	21.2	0.07	3.00E-4
0.15448	618.0	242.9	300.0	1.102	0.0	21.2	0.07	3.00E-4
0.154	619.7	243.9	305.0	1.122	0.0	21.2	0.07	3.00E-4

count: 57

/ windows UM3.

Case 4; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth	Amb-cur	Amb-dir	Disprsn m0.67/s2	Amb-sal	Amb-tem	Amb-pol	Solar rad
	Far-dir m deg	Far-dir m/s deg	deg		psu	C	kg/kg	s-1
0.07	0.0	0.07	90.0	0.0003	35.17	23.36	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.18	23.35	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.18	23.34	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.19	23.33	0.0	0.000312
0.07	8.0	0.07	90.0	0.0003	35.19	23.33	0.0	0.000312
0.07	10.0	0.07	90.0	0.0003	35.2	23.32	0.0	0.000312
0.07	12.0	0.07	90.0	0.0003	35.21	23.27	0.0	0.000312
0.07	14.0	0.07	90.0	0.0003	35.22	23.26	0.0	0.000312
0.07	16.0	0.07	90.0	0.0003	35.22	23.27	0.0	0.000312
0.07	18.0	0.07	90.0	0.0003	35.21	23.27	0.0	0.000312
0.07	20.0	0.07	90.0	0.0003	35.21	23.27	0.0	0.000312
0.07	22.0	0.07	90.0	0.0003	35.21	23.27	0.0	0.000312
0.07	24.0	0.07	90.0	0.0003	35.22	23.26	0.0	0.000312
0.07	26.0	0.07	90.0	0.0003	35.2	23.26	0.0	0.000312
0.07	28.0	0.07	90.0	0.0003	35.23	23.18	0.0	0.000312
0.07	30.0	0.07	90.0	0.0003	35.22	23.18	0.0	0.000312

Kailua_avg8.txt

0.07	32.0	0.07	90.0	35.22	23.17	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.23	23.16	0.0	0.000312
	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
15.25	28.04						

Froude number: 6.033

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.5	45.29	2.181	-0.558	0.837;
60	105.3	0.07	15.04	30.48	3.23	-0.966	1.507;
80	105.0	0.07	20.98	20.51	4.79	-1.462	2.399;
100	104.4	0.07	28.22	13.8	7.106	-2.0	3.494;
120	103.5	0.07	36.83	9.289	10.55	-2.499	4.685;
140	102.2	0.07	47.31	6.251	15.66	-2.943	5.975;
160	100.5	0.07	60.33	4.207	23.27	-3.335	7.42;
180	98.41	0.07	76.68	2.831	34.56	-3.683	9.107;
200	95.82	0.07	97.25	1.905	51.35	-3.993	11.14;
220	92.66	0.07	123.1	1.282	76.29	-4.268	13.65;
222	92.31	0.07	126.0	1.232	79.37	-4.294	13.94; merging,
240	87.82	0.07	165.1	0.863	113.3	-4.569	17.57;
260	80.38	0.07	242.4	0.58	168.4	-4.896	23.67;
280	68.97	0.07	359.5	0.391	250.3	-5.243	33.05;
297	54.93	0.07	509.0	0.279	350.4	-5.546	44.65; axial vel
0.0219	max dilution reached						
300	51.88	0.07	540.0	0.263	371.9	-5.6	47.16;
320	26.33	0.07	819.8	0.177	552.6	-5.96	68.01;
322	23.55	0.07	868.9	0.17	574.9	-5.994	70.48; axial vel
0.0819	surface,						
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.88
m	conc	dilutn	width	distnce	time		
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr)
0.16921	576.9	175.9	25.0	0.0136	0.0	21.2	0.07 3.00E-4
0.16933	576.2	177.3	30.0	0.0335	0.0	21.2	0.07 3.00E-4
0.16934	575.9	178.7	35.0	0.0533	0.0	21.2	0.07 3.00E-4
0.16933	575.7	180.1	40.0	0.0732	0.0	21.2	0.07 3.00E-4
0.16929	575.6	181.5	45.0	0.093	0.0	21.2	0.07 3.00E-4
0.16925	575.5	182.9	50.0	0.113	0.0	21.2	0.07 3.00E-4
0.1692	575.4	184.2	55.0	0.133	0.0	21.2	0.07 3.00E-4
0.16914	575.3	185.6	60.0	0.153	0.0	21.2	0.07 3.00E-4
0.16909	575.2	187.0	65.0	0.172	0.0	21.2	0.07 3.00E-4
0.16902	575.2	188.3	70.0	0.192	0.0	21.2	0.07 3.00E-4
0.16896	575.2	189.6	75.0	0.212	0.0	21.2	0.07 3.00E-4
0.16889	575.2	190.9	80.0	0.232	0.0	21.2	0.07 3.00E-4
0.16881	575.2	192.3	85.0	0.252	0.0	21.2	0.07 3.00E-4
0.16873	575.2	193.6	90.0	0.272	0.0	21.2	0.07 3.00E-4
0.16864	575.3	194.9	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.16854	575.4	196.1	100.0	0.311	0.0	21.2	0.07 3.00E-4
0.16842	575.5	197.4	105.0	0.331	0.0	21.2	0.07 3.00E-4
0.16829	575.7	198.7	110.0	0.351	0.0	21.2	0.07 3.00E-4
0.16815	576.0	199.9	115.0	0.371	0.0	21.2	0.07 3.00E-4
0.16799	576.3	201.2	120.0	0.391	0.0	21.2	0.07 3.00E-4
0.16781	576.6	202.4	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.16762	577.0	203.7	130.0	0.43	0.0	21.2	0.07 3.00E-4
0.16741	577.5	204.9	135.0	0.45	0.0	21.2	0.07 3.00E-4
0.16718	578.1	206.1	140.0	0.47	0.0	21.2	0.07 3.00E-4
0.16692	578.7	207.4	145.0	0.49	0.0	21.2	0.07 3.00E-4
0.16666	579.4	208.6	150.0	0.51	0.0	21.2	0.07 3.00E-4
0.16639	580.1	209.8	155.0	0.53	0.0	21.2	0.07 3.00E-4

					Kailua_avg8.txt			
0.1661	580.9	211.0	160.0	0.549	0.0	21.2	0.07	3.00E-4
0.16579	581.7	212.2	165.0	0.569	0.0	21.2	0.07	3.00E-4
0.16547	582.6	213.3	170.0	0.589	0.0	21.2	0.07	3.00E-4
0.16514	583.6	214.5	175.0	0.609	0.0	21.2	0.07	3.00E-4
0.1648	584.5	215.7	180.0	0.629	0.0	21.2	0.07	3.00E-4
0.16444	585.6	216.8	185.0	0.649	0.0	21.2	0.07	3.00E-4
0.16408	586.6	218.0	190.0	0.668	0.0	21.2	0.07	3.00E-4
0.16371	587.7	219.2	195.0	0.688	0.0	21.2	0.07	3.00E-4
0.16332	588.9	220.3	200.0	0.708	0.0	21.2	0.07	3.00E-4
0.16292	590.1	221.4	205.0	0.728	0.0	21.2	0.07	3.00E-4
0.16251	591.4	222.6	210.0	0.748	0.0	21.2	0.07	3.00E-4
0.16211	592.6	223.7	215.0	0.768	0.0	21.2	0.07	3.00E-4
0.16169	593.9	224.8	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.16126	595.3	225.9	225.0	0.807	0.0	21.2	0.07	3.00E-4
0.16083	596.6	227.0	230.0	0.827	0.0	21.2	0.07	3.00E-4
0.16039	598.0	228.1	235.0	0.847	0.0	21.2	0.07	3.00E-4
0.15993	599.5	229.2	240.0	0.867	0.0	21.2	0.07	3.00E-4
0.15948	601.0	230.3	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.15903	602.5	231.4	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.15857	604.0	232.5	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.15811	605.5	233.6	260.0	0.946	0.0	21.2	0.07	3.00E-4
0.15764	607.1	234.7	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.15717	608.6	235.7	270.0	0.986	0.0	21.2	0.07	3.00E-4
0.15672	610.2	236.8	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.15625	611.8	237.9	280.0	1.026	0.0	21.2	0.07	3.00E-4
0.15577	613.4	238.9	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.1553	615.0	240.0	290.0	1.065	0.0	21.2	0.07	3.00E-4
0.15482	616.7	241.0	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.15435	618.4	242.1	300.0	1.105	0.0	21.2	0.07	3.00E-4
0.15387	620.1	243.1	305.0	1.125	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 5; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Far-dir m0.67/s2	Disprsn deg	Amb-sal	Amb-tem	Amb-pol	Solar rad
						psu	c	kg/kg	s-1
0.07	0.0	90.0	0.07	0.0003	90.0	35.17	23.36	0.0	0.000312
						35.18	23.35	0.0	0.000312
0.07	2.0	90.0	0.07	0.0003	90.0	35.18	23.34	0.0	0.000312
						35.19	23.33	0.0	0.000312
0.07	4.0	90.0	0.07	0.0003	90.0	35.19	23.33	0.0	0.000312
						35.2	23.32	0.0	0.000312
0.07	6.0	90.0	0.07	0.0003	90.0	35.21	23.27	0.0	0.000312
						35.22	23.26	0.0	0.000312
0.07	8.0	90.0	0.07	0.0003	90.0	35.22	23.27	0.0	0.000312
						35.21	23.27	0.0	0.000312
0.07	10.0	90.0	0.07	0.0003	90.0	35.21	23.27	0.0	0.000312
						35.21	23.27	0.0	0.000312
0.07	12.0	90.0	0.07	0.0003	90.0	35.22	23.26	0.0	0.000312
						35.22	23.27	0.0	0.000312
0.07	14.0	90.0	0.07	0.0003	90.0	35.22	23.26	0.0	0.000312
						35.21	23.27	0.0	0.000312
0.07	16.0	90.0	0.07	0.0003	90.0	35.22	23.27	0.0	0.000312
						35.21	23.27	0.0	0.000312
0.07	18.0	90.0	0.07	0.0003	90.0	35.21	23.27	0.0	0.000312
						35.21	23.27	0.0	0.000312
0.07	20.0	90.0	0.07	0.0003	90.0	35.21	23.27	0.0	0.000312
						35.21	23.27	0.0	0.000312
0.07	22.0	90.0	0.07	0.0003	90.0	35.21	23.27	0.0	0.000312
						35.22	23.26	0.0	0.000312
0.07	24.0	90.0	0.07	0.0003	90.0	35.22	23.26	0.0	0.000312

Kailua_avg8.txt

0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.2	23.26	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.23	23.18	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.22	23.18	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.22	23.17	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.23	23.16	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.033							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.5	45.29	2.181	-0.558	0.837	
60	105.3	0.07	15.04	30.48	3.23	-0.966	1.507	
80	105.0	0.07	20.98	20.51	4.79	-1.462	2.399	
100	104.4	0.07	28.22	13.8	7.106	-2.0	3.494	
120	103.5	0.07	36.83	9.289	10.55	-2.499	4.685	
140	102.2	0.07	47.31	6.251	15.66	-2.943	5.975	
160	100.5	0.07	60.33	4.207	23.27	-3.335	7.42	
180	98.41	0.07	76.68	2.831	34.56	-3.683	9.107	
200	95.82	0.07	97.25	1.905	51.35	-3.993	11.14	
220	92.66	0.07	123.1	1.282	76.29	-4.268	13.65	
222	92.31	0.07	126.0	1.232	79.37	-4.294	13.94	
240	87.82	0.07	165.1	0.863	113.3	-4.569	17.57	
260	80.38	0.07	242.4	0.58	168.4	-4.896	23.67	
280	68.97	0.07	359.5	0.391	250.3	-5.243	33.05	
297	54.93	0.07	509.0	0.279	350.4	-5.546	44.65	
0.0219	max dilution reached						axial vel	
300	51.88	0.07	540.0	0.263	371.9	-5.6	47.16	
320	26.33	0.07	819.8	0.177	552.6	-5.96	68.01	
322	23.55	0.07	868.9	0.17	574.9	-5.994	70.48	
0.0819	surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.88	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr) (m/s) (m ^{0.67} /s ²)	
0.16921	576.9	175.9	25.0	0.0136	0.0	21.2	0.07 3.00E-4	
0.16933	576.2	177.3	30.0	0.0335	0.0	21.2	0.07 3.00E-4	
0.16934	575.9	178.7	35.0	0.0533	0.0	21.2	0.07 3.00E-4	
0.16933	575.7	180.1	40.0	0.0732	0.0	21.2	0.07 3.00E-4	
0.16929	575.6	181.5	45.0	0.093	0.0	21.2	0.07 3.00E-4	
0.16925	575.5	182.9	50.0	0.113	0.0	21.2	0.07 3.00E-4	
0.1692	575.4	184.2	55.0	0.133	0.0	21.2	0.07 3.00E-4	
0.16914	575.3	185.6	60.0	0.153	0.0	21.2	0.07 3.00E-4	
0.16909	575.2	187.0	65.0	0.172	0.0	21.2	0.07 3.00E-4	
0.16902	575.2	188.3	70.0	0.192	0.0	21.2	0.07 3.00E-4	
0.16896	575.2	189.6	75.0	0.212	0.0	21.2	0.07 3.00E-4	
0.16889	575.2	190.9	80.0	0.232	0.0	21.2	0.07 3.00E-4	
0.16881	575.2	192.3	85.0	0.252	0.0	21.2	0.07 3.00E-4	
0.16873	575.2	193.6	90.0	0.272	0.0	21.2	0.07 3.00E-4	
0.16864	575.3	194.9	95.0	0.291	0.0	21.2	0.07 3.00E-4	
0.16854	575.4	196.1	100.0	0.311	0.0	21.2	0.07 3.00E-4	
0.16842	575.5	197.4	105.0	0.331	0.0	21.2	0.07 3.00E-4	
0.16829	575.7	198.7	110.0	0.351	0.0	21.2	0.07 3.00E-4	
0.16815	576.0	199.9	115.0	0.371	0.0	21.2	0.07 3.00E-4	
0.16799	576.3	201.2	120.0	0.391	0.0	21.2	0.07 3.00E-4	

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0.16781	576.6	202.4	125.0	0.41	0.0	21.2	0.07	3.00E-4
0.16762	577.0	203.7	130.0	0.43	0.0	21.2	0.07	3.00E-4
0.16741	577.5	204.9	135.0	0.45	0.0	21.2	0.07	3.00E-4
0.16718	578.1	206.1	140.0	0.47	0.0	21.2	0.07	3.00E-4
0.16692	578.7	207.4	145.0	0.49	0.0	21.2	0.07	3.00E-4
0.16666	579.4	208.6	150.0	0.51	0.0	21.2	0.07	3.00E-4
0.16639	580.1	209.8	155.0	0.53	0.0	21.2	0.07	3.00E-4
0.1661	580.9	211.0	160.0	0.549	0.0	21.2	0.07	3.00E-4
0.16579	581.7	212.2	165.0	0.569	0.0	21.2	0.07	3.00E-4
0.16547	582.6	213.3	170.0	0.589	0.0	21.2	0.07	3.00E-4
0.16514	583.6	214.5	175.0	0.609	0.0	21.2	0.07	3.00E-4
0.1648	584.5	215.7	180.0	0.629	0.0	21.2	0.07	3.00E-4
0.16444	585.6	216.8	185.0	0.649	0.0	21.2	0.07	3.00E-4
0.16408	586.6	218.0	190.0	0.668	0.0	21.2	0.07	3.00E-4
0.16371	587.7	219.2	195.0	0.688	0.0	21.2	0.07	3.00E-4
0.16332	588.9	220.3	200.0	0.708	0.0	21.2	0.07	3.00E-4
0.16292	590.1	221.4	205.0	0.728	0.0	21.2	0.07	3.00E-4
0.16251	591.4	222.6	210.0	0.748	0.0	21.2	0.07	3.00E-4
0.16211	592.6	223.7	215.0	0.768	0.0	21.2	0.07	3.00E-4
0.16169	593.9	224.8	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.16126	595.3	225.9	225.0	0.807	0.0	21.2	0.07	3.00E-4
0.16083	596.6	227.0	230.0	0.827	0.0	21.2	0.07	3.00E-4
0.16039	598.0	228.1	235.0	0.847	0.0	21.2	0.07	3.00E-4
0.15993	599.5	229.2	240.0	0.867	0.0	21.2	0.07	3.00E-4
0.15948	601.0	230.3	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.15903	602.5	231.4	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.15857	604.0	232.5	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.15811	605.5	233.6	260.0	0.946	0.0	21.2	0.07	3.00E-4
0.15764	607.1	234.7	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.15717	608.6	235.7	270.0	0.986	0.0	21.2	0.07	3.00E-4
0.15672	610.2	236.8	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.15625	611.8	237.9	280.0	1.026	0.0	21.2	0.07	3.00E-4
0.15577	613.4	238.9	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.1553	615.0	240.0	290.0	1.065	0.0	21.2	0.07	3.00E-4
0.15482	616.7	241.0	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.15435	618.4	242.1	300.0	1.105	0.0	21.2	0.07	3.00E-4
0.15387	620.1	243.1	305.0	1.125	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 6; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir	Disprsn						s-1
m/s	m	m/s	deg	psu	C	kg/kg		
0.07	0.0	0.07	90.0	34.95	25.92	0.0	0.000312	
0.07	2.0	0.07	90.0	34.9	25.87	0.0	0.000312	
0.07	4.0	0.07	90.0	34.94	25.61	0.0	0.000312	
0.07	6.0	0.07	90.0	34.95	25.53	0.0	0.000312	
0.07	8.0	0.07	90.0	34.94	25.46	0.0	0.000312	
0.07	10.0	0.07	90.0	34.96	25.43	0.0	0.000312	
0.07	12.0	0.07	90.0	34.96	25.41	0.0	0.000312	
0.07	14.0	0.07	90.0	34.96	25.41	0.0	0.000312	
0.07	16.0	0.07	90.0	34.95	25.39	0.0	0.000312	

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0.07	18.0	0.07	90.0	34.96	25.38	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	34.96	25.38	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	34.95	25.38	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	34.96	25.38	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	34.96	25.38	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	34.96	25.38	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	34.95	25.38	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	34.96	25.38	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	34.95	25.38	0.0	0.000312	
	90.0	0.0003						
0.07	Ttl-flo	Temp						
	(MGD)	(C)						
	15.25	28.04						
Froude number:	6.151							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508	
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403	
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508	
120	103.5	0.07	37.06	9.289	10.56	-2.513	4.716	
140	102.2	0.07	47.66	6.251	15.68	-2.963	6.024	
160	100.6	0.07	60.82	4.207	23.29	-3.361	7.491	
180	98.52	0.07	77.32	2.831	34.59	-3.714	9.202	
200	95.96	0.07	98.09	1.905	51.39	-4.029	11.27	
220	92.84	0.07	124.2	1.282	76.35	-4.308	13.81	
221	92.67	0.07	125.6	1.257	77.88	-4.321	13.96	
240	87.96	0.07	166.2	0.863	113.4	-4.618	17.84	
260	80.34	0.07	237.3	0.58	168.6	-4.947	23.96	
280	68.78	0.07	349.2	0.391	250.5	-5.282	33.02	
297	54.36	0.07	485.5	0.279	350.7	-5.571	44.12	
0.0221	max dilution reached						axial vel	
300	51.28	0.07	515.8	0.263	372.2	-5.622	46.48	
320	25.67	0.07	791.6	0.177	553.0	-5.966	66.45	
323	21.2	0.07	859.1	0.167	586.9	-6.017	70.18	
0.0929	surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.63	
m	conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.1659	588.9	175.6	25.0	0.014	0.0	21.2	0.07	3.00E-4
0.16601	588.2	177.1	30.0	0.0339	0.0	21.2	0.07	3.00E-4
0.16603	587.9	178.5	35.0	0.0537	0.0	21.2	0.07	3.00E-4
0.16601	587.7	179.9	40.0	0.0735	0.0	21.2	0.07	3.00E-4
0.16597	587.5	181.3	45.0	0.0934	0.0	21.2	0.07	3.00E-4
0.16593	587.4	182.6	50.0	0.113	0.0	21.2	0.07	3.00E-4
0.16588	587.4	184.0	55.0	0.133	0.0	21.2	0.07	3.00E-4
0.16583	587.3	185.4	60.0	0.153	0.0	21.2	0.07	3.00E-4
0.16577	587.2	186.7	65.0	0.173	0.0	21.2	0.07	3.00E-4
0.16571	587.2	188.1	70.0	0.193	0.0	21.2	0.07	3.00E-4
0.16565	587.2	189.4	75.0	0.212	0.0	21.2	0.07	3.00E-4
0.16558	587.1	190.7	80.0	0.232	0.0	21.2	0.07	3.00E-4
0.1655	587.2	192.0	85.0	0.252	0.0	21.2	0.07	3.00E-4

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0.16542	587.2	193.3	90.0	0.272	0.0	21.2	0.07	3.00E-4
0.16533	587.3	194.6	95.0	0.292	0.0	21.2	0.07	3.00E-4
0.16523	587.4	195.9	100.0	0.312	0.0	21.2	0.07	3.00E-4
0.16512	587.5	197.2	105.0	0.331	0.0	21.2	0.07	3.00E-4
0.16499	587.7	198.5	110.0	0.351	0.0	21.2	0.07	3.00E-4
0.16485	588.0	199.7	115.0	0.371	0.0	21.2	0.07	3.00E-4
0.16469	588.3	201.0	120.0	0.391	0.0	21.2	0.07	3.00E-4
0.16452	588.6	202.2	125.0	0.411	0.0	21.2	0.07	3.00E-4
0.16433	589.1	203.4	130.0	0.431	0.0	21.2	0.07	3.00E-4
0.16412	589.6	204.7	135.0	0.451	0.0	21.2	0.07	3.00E-4
0.16389	590.2	205.9	140.0	0.47	0.0	21.2	0.07	3.00E-4
0.16364	590.8	207.1	145.0	0.49	0.0	21.2	0.07	3.00E-4
0.16339	591.5	208.3	150.0	0.51	0.0	21.2	0.07	3.00E-4
0.16312	592.2	209.5	155.0	0.53	0.0	21.2	0.07	3.00E-4
0.16283	593.0	210.7	160.0	0.55	0.0	21.2	0.07	3.00E-4
0.16253	593.9	211.9	165.0	0.57	0.0	21.2	0.07	3.00E-4
0.16222	594.8	213.1	170.0	0.589	0.0	21.2	0.07	3.00E-4
0.16189	595.8	214.3	175.0	0.609	0.0	21.2	0.07	3.00E-4
0.16155	596.8	215.4	180.0	0.629	0.0	21.2	0.07	3.00E-4
0.1612	597.8	216.6	185.0	0.649	0.0	21.2	0.07	3.00E-4
0.16085	598.9	217.7	190.0	0.669	0.0	21.2	0.07	3.00E-4
0.16048	600.0	218.9	195.0	0.689	0.0	21.2	0.07	3.00E-4
0.1601	601.2	220.0	200.0	0.708	0.0	21.2	0.07	3.00E-4
0.15971	602.5	221.2	205.0	0.728	0.0	21.2	0.07	3.00E-4
0.15931	603.7	222.3	210.0	0.748	0.0	21.2	0.07	3.00E-4
0.15891	605.0	223.4	215.0	0.768	0.0	21.2	0.07	3.00E-4
0.15849	606.4	224.6	220.0	0.788	0.0	21.2	0.07	3.00E-4
0.15808	607.7	225.7	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.15765	609.1	226.8	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.15721	610.6	227.9	235.0	0.847	0.0	21.2	0.07	3.00E-4
0.15676	612.1	229.0	240.0	0.867	0.0	21.2	0.07	3.00E-4
0.15632	613.6	230.1	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.15588	615.1	231.2	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.15543	616.6	232.2	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.15498	618.2	233.3	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.15452	619.8	234.4	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.15406	621.4	235.5	270.0	0.986	0.0	21.2	0.07	3.00E-4
0.15361	623.0	236.5	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.15315	624.6	237.6	280.0	1.026	0.0	21.2	0.07	3.00E-4
0.15269	626.3	238.6	285.0	1.046	0.0	21.2	0.07	3.00E-4
0.15222	628.0	239.7	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.15175	629.7	240.7	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.15128	631.4	241.8	300.0	1.105	0.0	21.2	0.07	3.00E-4
0.15081	633.1	242.8	305.0	1.125	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 7; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	solar	rad
m/s	Far-dir	Disprsn	deg	psu	c	kg/kg	s-1	
	m	m/s	m ^{0.67} /s ²					
0.07	0.0	90.0	0.07	34.95	25.92	0.0	0.000312	
	2.0	0.07	0.0003	34.9	25.87	0.0	0.000312	
0.07	90.0	0.07	0.0003	34.94	25.61	0.0	0.000312	
	4.0	0.07	0.0003	34.95	25.53	0.0	0.000312	
0.07	90.0	0.07	0.0003	34.94	25.46	0.0	0.000312	
	6.0	0.07	0.0003	34.96	25.43	0.0	0.000312	
0.07	90.0	0.07	0.0003					
	8.0	0.07						
0.07	90.0	0.07	0.0003					
	10.0	0.07						

Kailua_avg8.txt

0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	34.96	25.41	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	34.96	25.41	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	34.95	25.39	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	34.95	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	34.95	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	34.96	25.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	34.95	25.38	0.0	0.000312	
0.07	90.0	0.0003						
Tt1-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.151							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;	
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403;	
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508;	
120	103.5	0.07	37.06	9.289	10.56	-2.513	4.716;	
140	102.2	0.07	47.66	6.251	15.68	-2.963	6.024;	
160	100.6	0.07	60.82	4.207	23.29	-3.361	7.491;	
180	98.52	0.07	77.32	2.831	34.59	-3.714	9.202;	
200	95.96	0.07	98.09	1.905	51.39	-4.029	11.27;	
220	92.84	0.07	124.2	1.282	76.35	-4.308	13.81;	
221	92.67	0.07	125.6	1.257	77.88	-4.321	13.96;	
240	87.96	0.07	166.2	0.863	113.4	-4.618	17.84;	
260	80.34	0.07	237.3	0.58	168.6	-4.947	23.96;	
280	68.78	0.07	349.2	0.391	250.5	-5.282	33.02;	
297	54.36	0.07	485.5	0.279	350.7	-5.571	44.12; axial vel	
0.0221	max dilution reached							
300	51.28	0.07	515.8	0.263	372.2	-5.622	46.48;	
320	25.67	0.07	791.6	0.177	553.0	-5.966	66.45;	
323	21.2	0.07	859.1	0.167	586.9	-6.017	70.18; axial vel	
0.0929	surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.63	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr)	
0.1659	588.9	175.6	25.0	0.014	0.0	21.2	0.07 3.00E-4	
0.16601	588.2	177.1	30.0	0.0339	0.0	21.2	0.07 3.00E-4	
0.16603	587.9	178.5	35.0	0.0537	0.0	21.2	0.07 3.00E-4	
0.16601	587.7	179.9	40.0	0.0735	0.0	21.2	0.07 3.00E-4	
0.16597	587.5	181.3	45.0	0.0934	0.0	21.2	0.07 3.00E-4	
0.16593	587.4	182.6	50.0	0.113	0.0	21.2	0.07 3.00E-4	

Kailua_avg8.txt

0.16588	587.4	184.0	55.0	0.133	0.0	21.2	0.07	3.00E-4
0.16583	587.3	185.4	60.0	0.153	0.0	21.2	0.07	3.00E-4
0.16577	587.2	186.7	65.0	0.173	0.0	21.2	0.07	3.00E-4
0.16571	587.2	188.1	70.0	0.193	0.0	21.2	0.07	3.00E-4
0.16565	587.2	189.4	75.0	0.212	0.0	21.2	0.07	3.00E-4
0.16558	587.1	190.7	80.0	0.232	0.0	21.2	0.07	3.00E-4
0.1655	587.2	192.0	85.0	0.252	0.0	21.2	0.07	3.00E-4
0.16542	587.2	193.3	90.0	0.272	0.0	21.2	0.07	3.00E-4
0.16533	587.3	194.6	95.0	0.292	0.0	21.2	0.07	3.00E-4
0.16523	587.4	195.9	100.0	0.312	0.0	21.2	0.07	3.00E-4
0.16512	587.5	197.2	105.0	0.331	0.0	21.2	0.07	3.00E-4
0.16499	587.7	198.5	110.0	0.351	0.0	21.2	0.07	3.00E-4
0.16485	588.0	199.7	115.0	0.371	0.0	21.2	0.07	3.00E-4
0.16469	588.3	201.0	120.0	0.391	0.0	21.2	0.07	3.00E-4
0.16452	588.6	202.2	125.0	0.411	0.0	21.2	0.07	3.00E-4
0.16433	589.1	203.4	130.0	0.431	0.0	21.2	0.07	3.00E-4
0.16412	589.6	204.7	135.0	0.451	0.0	21.2	0.07	3.00E-4
0.16389	590.2	205.9	140.0	0.47	0.0	21.2	0.07	3.00E-4
0.16364	590.8	207.1	145.0	0.49	0.0	21.2	0.07	3.00E-4
0.16339	591.5	208.3	150.0	0.51	0.0	21.2	0.07	3.00E-4
0.16312	592.2	209.5	155.0	0.53	0.0	21.2	0.07	3.00E-4
0.16283	593.0	210.7	160.0	0.55	0.0	21.2	0.07	3.00E-4
0.16253	593.9	211.9	165.0	0.57	0.0	21.2	0.07	3.00E-4
0.16222	594.8	213.1	170.0	0.589	0.0	21.2	0.07	3.00E-4
0.16189	595.8	214.3	175.0	0.609	0.0	21.2	0.07	3.00E-4
0.16155	596.8	215.4	180.0	0.629	0.0	21.2	0.07	3.00E-4
0.1612	597.8	216.6	185.0	0.649	0.0	21.2	0.07	3.00E-4
0.16085	598.9	217.7	190.0	0.669	0.0	21.2	0.07	3.00E-4
0.16048	600.0	218.9	195.0	0.689	0.0	21.2	0.07	3.00E-4
0.1601	601.2	220.0	200.0	0.708	0.0	21.2	0.07	3.00E-4
0.15971	602.5	221.2	205.0	0.728	0.0	21.2	0.07	3.00E-4
0.15931	603.7	222.3	210.0	0.748	0.0	21.2	0.07	3.00E-4
0.15891	605.0	223.4	215.0	0.768	0.0	21.2	0.07	3.00E-4
0.15849	606.4	224.6	220.0	0.788	0.0	21.2	0.07	3.00E-4
0.15808	607.7	225.7	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.15765	609.1	226.8	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.15721	610.6	227.9	235.0	0.847	0.0	21.2	0.07	3.00E-4
0.15676	612.1	229.0	240.0	0.867	0.0	21.2	0.07	3.00E-4
0.15632	613.6	230.1	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.15588	615.1	231.2	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.15543	616.6	232.2	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.15498	618.2	233.3	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.15452	619.8	234.4	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.15406	621.4	235.5	270.0	0.986	0.0	21.2	0.07	3.00E-4
0.15361	623.0	236.5	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.15315	624.6	237.6	280.0	1.026	0.0	21.2	0.07	3.00E-4
0.15269	626.3	238.6	285.0	1.046	0.0	21.2	0.07	3.00E-4
0.15222	628.0	239.7	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.15175	629.7	240.7	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.15128	631.4	241.8	300.0	1.105	0.0	21.2	0.07	3.00E-4
0.15081	633.1	242.8	305.0	1.125	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 8; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
	Far-dir	Disprsn	deg	psu	C	kg/kg	s-1
	m	m/s	m0.67/s2				
	deg						
0.07	0.0	0.07	90.0	34.95	25.92	0.0	0.000312
	90.0	0.0003					
0.07	2.0	0.07	90.0	34.9	25.87	0.0	0.000312
	90.0	0.0003					

Kailua_avg8.txt

0.07	4.0	0.07	90.0	34.94	25.61	0.0	0.000312
	90.0	0.0003					
0.07	6.0	0.07	90.0	34.95	25.53	0.0	0.000312
	90.0	0.0003					
0.07	8.0	0.07	90.0	34.94	25.46	0.0	0.000312
	90.0	0.0003					
0.07	10.0	0.07	90.0	34.96	25.43	0.0	0.000312
	90.0	0.0003					
0.07	12.0	0.07	90.0	34.96	25.41	0.0	0.000312
	90.0	0.0003					
0.07	14.0	0.07	90.0	34.96	25.41	0.0	0.000312
	90.0	0.0003					
0.07	16.0	0.07	90.0	34.95	25.39	0.0	0.000312
	90.0	0.0003					
0.07	18.0	0.07	90.0	34.96	25.38	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	34.96	25.38	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	34.95	25.38	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	34.96	25.38	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	34.96	25.38	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	34.96	25.38	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	34.95	25.38	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	34.96	25.38	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	34.95	25.38	0.0	0.000312
	90.0	0.0003					
0.07	Ttl-flo (MGD)	Temp (C)					
	15.25	28.04					
Froude number: 6.151							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403;
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508;
120	103.5	0.07	37.06	9.289	10.56	-2.513	4.716;
140	102.2	0.07	47.66	6.251	15.68	-2.963	6.024;
160	100.6	0.07	60.82	4.207	23.29	-3.361	7.491;
180	98.52	0.07	77.32	2.831	34.59	-3.714	9.202;
200	95.96	0.07	98.09	1.905	51.39	-4.029	11.27;
220	92.84	0.07	124.2	1.282	76.35	-4.308	13.81;
221	92.67	0.07	125.6	1.257	77.88	-4.321	13.96; merging,
240	87.96	0.07	166.2	0.863	113.4	-4.618	17.84;
260	80.34	0.07	237.3	0.58	168.6	-4.947	23.96;
280	68.78	0.07	349.2	0.391	250.5	-5.282	33.02;
297	54.36	0.07	485.5	0.279	350.7	-5.571	44.12; axial vel
0.0221 max dilution reached							
300	51.28	0.07	515.8	0.263	372.2	-5.622	46.48;
320	25.67	0.07	791.6	0.177	553.0	-5.966	66.45;
323	21.2	0.07	859.1	0.167	586.9	-6.017	70.18; axial vel
0.0929 surface,							
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 174.63 m							

conc dilutn width distnce time

					Kailua_avg8.txt			
(ppm)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)	(m0.67/s2)	
0.1659	588.9	175.6	25.0	0.014	0.0	21.2	0.07	3.00E-4
0.16601	588.2	177.1	30.0	0.0339	0.0	21.2	0.07	3.00E-4
0.16603	587.9	178.5	35.0	0.0537	0.0	21.2	0.07	3.00E-4
0.16601	587.7	179.9	40.0	0.0735	0.0	21.2	0.07	3.00E-4
0.16597	587.5	181.3	45.0	0.0934	0.0	21.2	0.07	3.00E-4
0.16593	587.4	182.6	50.0	0.113	0.0	21.2	0.07	3.00E-4
0.16588	587.4	184.0	55.0	0.133	0.0	21.2	0.07	3.00E-4
0.16583	587.3	185.4	60.0	0.153	0.0	21.2	0.07	3.00E-4
0.16577	587.2	186.7	65.0	0.173	0.0	21.2	0.07	3.00E-4
0.16571	587.2	188.1	70.0	0.193	0.0	21.2	0.07	3.00E-4
0.16565	587.2	189.4	75.0	0.212	0.0	21.2	0.07	3.00E-4
0.16558	587.1	190.7	80.0	0.232	0.0	21.2	0.07	3.00E-4
0.1655	587.2	192.0	85.0	0.252	0.0	21.2	0.07	3.00E-4
0.16542	587.2	193.3	90.0	0.272	0.0	21.2	0.07	3.00E-4
0.16533	587.3	194.6	95.0	0.292	0.0	21.2	0.07	3.00E-4
0.16523	587.4	195.9	100.0	0.312	0.0	21.2	0.07	3.00E-4
0.16512	587.5	197.2	105.0	0.331	0.0	21.2	0.07	3.00E-4
0.16499	587.7	198.5	110.0	0.351	0.0	21.2	0.07	3.00E-4
0.16485	588.0	199.7	115.0	0.371	0.0	21.2	0.07	3.00E-4
0.16469	588.3	201.0	120.0	0.391	0.0	21.2	0.07	3.00E-4
0.16452	588.6	202.2	125.0	0.411	0.0	21.2	0.07	3.00E-4
0.16433	589.1	203.4	130.0	0.431	0.0	21.2	0.07	3.00E-4
0.16412	589.6	204.7	135.0	0.451	0.0	21.2	0.07	3.00E-4
0.16389	590.2	205.9	140.0	0.47	0.0	21.2	0.07	3.00E-4
0.16364	590.8	207.1	145.0	0.49	0.0	21.2	0.07	3.00E-4
0.16339	591.5	208.3	150.0	0.51	0.0	21.2	0.07	3.00E-4
0.16312	592.2	209.5	155.0	0.53	0.0	21.2	0.07	3.00E-4
0.16283	593.0	210.7	160.0	0.55	0.0	21.2	0.07	3.00E-4
0.16253	593.9	211.9	165.0	0.57	0.0	21.2	0.07	3.00E-4
0.16222	594.8	213.1	170.0	0.589	0.0	21.2	0.07	3.00E-4
0.16189	595.8	214.3	175.0	0.609	0.0	21.2	0.07	3.00E-4
0.16155	596.8	215.4	180.0	0.629	0.0	21.2	0.07	3.00E-4
0.1612	597.8	216.6	185.0	0.649	0.0	21.2	0.07	3.00E-4
0.16085	598.9	217.7	190.0	0.669	0.0	21.2	0.07	3.00E-4
0.16048	600.0	218.9	195.0	0.689	0.0	21.2	0.07	3.00E-4
0.1601	601.2	220.0	200.0	0.708	0.0	21.2	0.07	3.00E-4
0.15971	602.5	221.2	205.0	0.728	0.0	21.2	0.07	3.00E-4
0.15931	603.7	222.3	210.0	0.748	0.0	21.2	0.07	3.00E-4
0.15891	605.0	223.4	215.0	0.768	0.0	21.2	0.07	3.00E-4
0.15849	606.4	224.6	220.0	0.788	0.0	21.2	0.07	3.00E-4
0.15808	607.7	225.7	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.15765	609.1	226.8	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.15721	610.6	227.9	235.0	0.847	0.0	21.2	0.07	3.00E-4
0.15676	612.1	229.0	240.0	0.867	0.0	21.2	0.07	3.00E-4
0.15632	613.6	230.1	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.15588	615.1	231.2	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.15543	616.6	232.2	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.15498	618.2	233.3	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.15452	619.8	234.4	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.15406	621.4	235.5	270.0	0.986	0.0	21.2	0.07	3.00E-4
0.15361	623.0	236.5	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.15315	624.6	237.6	280.0	1.026	0.0	21.2	0.07	3.00E-4
0.15269	626.3	238.6	285.0	1.046	0.0	21.2	0.07	3.00E-4
0.15222	628.0	239.7	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.15175	629.7	240.7	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.15128	631.4	241.8	300.0	1.105	0.0	21.2	0.07	3.00E-4
0.15081	633.1	242.8	305.0	1.125	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 9; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Depth Amb-cur Amb-dir Amb-sal Amb-tem Amb-pol Solar rad

Kailua_avg8.txt								
Far-spd m/s	Far-dir m deg	Dispnsn m/s ^{0.67/s²}	deg	psu	c	kg/kg	s-1	
0.07	0.0	0.07	90.0	35.1	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.1	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.1	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.1	25.73	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.1	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.11	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.11	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.12	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.12	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.11	25.62	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.11	25.57	0.0	0.000312	
	90.0	0.0003						
Ttl-flo (MGD)	Temp (C)							
15.25	28.04							
Froude number:	6.145							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;	
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403;	
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508;	
120	103.5	0.07	37.05	9.289	10.56	-2.513	4.714;	
140	102.2	0.07	47.66	6.251	15.68	-2.962	6.022;	
160	100.6	0.07	60.84	4.207	23.28	-3.36	7.489;	
180	98.52	0.07	77.41	2.831	34.59	-3.714	9.202;	
200	95.97	0.07	98.29	1.905	51.39	-4.029	11.27;	
220	92.87	0.07	124.5	1.282	76.35	-4.309	13.83;	
221	92.7	0.07	125.9	1.257	77.88	-4.323	13.97; merging,	
240	87.99	0.07	166.9	0.863	113.4	-4.622	17.88;	
260	80.39	0.07	238.7	0.58	168.6	-4.953	24.05;	
280	68.89	0.07	352.8	0.391	250.5	-5.292	33.22;	
297	54.61	0.07	494.3	0.279	350.7	-5.586	44.49; axial vel	
0.022 max dilution reached								

Kailua_avg8.txt							
300	51.54	0.07	525.0	0.263	372.2	-5.638	46.91;
320	25.75	0.07	793.8	0.177	553.0	-5.988	67.23;
323	21.08	0.07	850.8	0.167	586.8	-6.04	71.03; axial vel
0.0948 surface,							
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 174.41 m							
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
(ppm)		(m)	(m)	(hrs)			
0.16588	588.9	175.4	25.0	0.013	0.0	21.2	0.07 3.00E-4
0.166	588.2	176.8	30.0	0.0328	0.0	21.2	0.07 3.00E-4
0.16602	587.9	178.2	35.0	0.0527	0.0	21.2	0.07 3.00E-4
0.16601	587.7	179.6	40.0	0.0725	0.0	21.2	0.07 3.00E-4
0.16597	587.5	181.0	45.0	0.0924	0.0	21.2	0.07 3.00E-4
0.16593	587.4	182.4	50.0	0.112	0.0	21.2	0.07 3.00E-4
0.16588	587.3	183.7	55.0	0.132	0.0	21.2	0.07 3.00E-4
0.16583	587.3	185.1	60.0	0.152	0.0	21.2	0.07 3.00E-4
0.16577	587.2	186.4	65.0	0.172	0.0	21.2	0.07 3.00E-4
0.16571	587.2	187.8	70.0	0.192	0.0	21.2	0.07 3.00E-4
0.16565	587.1	189.1	75.0	0.211	0.0	21.2	0.07 3.00E-4
0.16558	587.1	190.4	80.0	0.231	0.0	21.2	0.07 3.00E-4
0.16551	587.1	191.7	85.0	0.251	0.0	21.2	0.07 3.00E-4
0.16542	587.2	193.0	90.0	0.271	0.0	21.2	0.07 3.00E-4
0.16533	587.2	194.3	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.16523	587.3	195.6	100.0	0.311	0.0	21.2	0.07 3.00E-4
0.16512	587.5	196.9	105.0	0.33	0.0	21.2	0.07 3.00E-4
0.16499	587.7	198.2	110.0	0.35	0.0	21.2	0.07 3.00E-4
0.16485	587.9	199.4	115.0	0.37	0.0	21.2	0.07 3.00E-4
0.1647	588.3	200.7	120.0	0.39	0.0	21.2	0.07 3.00E-4
0.16452	588.6	201.9	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.16433	589.1	203.2	130.0	0.43	0.0	21.2	0.07 3.00E-4
0.16412	589.6	204.4	135.0	0.449	0.0	21.2	0.07 3.00E-4
0.1639	590.1	205.6	140.0	0.469	0.0	21.2	0.07 3.00E-4
0.16365	590.8	206.8	145.0	0.489	0.0	21.2	0.07 3.00E-4
0.16339	591.5	208.0	150.0	0.509	0.0	21.2	0.07 3.00E-4
0.16312	592.2	209.2	155.0	0.529	0.0	21.2	0.07 3.00E-4
0.16284	593.0	210.4	160.0	0.549	0.0	21.2	0.07 3.00E-4
0.16254	593.8	211.6	165.0	0.569	0.0	21.2	0.07 3.00E-4
0.16222	594.8	212.8	170.0	0.588	0.0	21.2	0.07 3.00E-4
0.1619	595.7	214.0	175.0	0.608	0.0	21.2	0.07 3.00E-4
0.16156	596.7	215.1	180.0	0.628	0.0	21.2	0.07 3.00E-4
0.16121	597.8	216.3	185.0	0.648	0.0	21.2	0.07 3.00E-4
0.16085	598.9	217.5	190.0	0.668	0.0	21.2	0.07 3.00E-4
0.16048	600.0	218.6	195.0	0.688	0.0	21.2	0.07 3.00E-4
0.1601	601.2	219.7	200.0	0.707	0.0	21.2	0.07 3.00E-4
0.15971	602.4	220.9	205.0	0.727	0.0	21.2	0.07 3.00E-4
0.15931	603.7	222.0	210.0	0.747	0.0	21.2	0.07 3.00E-4
0.15891	605.0	223.1	215.0	0.767	0.0	21.2	0.07 3.00E-4
0.1585	606.3	224.3	220.0	0.787	0.0	21.2	0.07 3.00E-4
0.15808	607.7	225.4	225.0	0.807	0.0	21.2	0.07 3.00E-4
0.15765	609.1	226.5	230.0	0.826	0.0	21.2	0.07 3.00E-4
0.15722	610.6	227.6	235.0	0.846	0.0	21.2	0.07 3.00E-4
0.15677	612.1	228.7	240.0	0.866	0.0	21.2	0.07 3.00E-4
0.15633	613.6	229.8	245.0	0.886	0.0	21.2	0.07 3.00E-4
0.15589	615.1	230.9	250.0	0.906	0.0	21.2	0.07 3.00E-4
0.15544	616.6	232.0	255.0	0.926	0.0	21.2	0.07 3.00E-4
0.15498	618.2	233.0	260.0	0.946	0.0	21.2	0.07 3.00E-4
0.15452	619.8	234.1	265.0	0.965	0.0	21.2	0.07 3.00E-4
0.15406	621.4	235.2	270.0	0.985	0.0	21.2	0.07 3.00E-4
0.15361	623.0	236.2	275.0	1.005	0.0	21.2	0.07 3.00E-4
0.15315	624.6	237.3	280.0	1.025	0.0	21.2	0.07 3.00E-4
0.15269	626.3	238.3	285.0	1.045	0.0	21.2	0.07 3.00E-4
0.15222	627.9	239.4	290.0	1.065	0.0	21.2	0.07 3.00E-4
0.15176	629.6	240.4	295.0	1.084	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt

0.15129	631.3	241.5	300.0	1.104	0.0	21.2	0.07	3.00E-4
0.15082	633.1	242.5	305.0	1.124	0.0	21.2	0.07	3.00E-4
count: 57								
/ Windows UM3.								
Case 10; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:								
Far-spd m/s	Depth m	Amb-cur m/s	Amb-dir deg	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1	
0.07	0.0	0.07	90.0	35.1	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.1	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.1	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.1	25.73	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.1	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.11	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.11	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.12	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.12	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.11	25.71	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.11	25.62	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.11	25.57	0.0	0.000312	
	90.0	0.0003						
Ttl-flo (MGD)	Temp (C)							
15.25	28.04							
Froude number: 6.145								
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508	
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403	
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508	
120	103.5	0.07	37.05	9.289	10.56	-2.513	4.714	
140	102.2	0.07	47.66	6.251	15.68	-2.962	6.022	
160	100.6	0.07	60.84	4.207	23.28	-3.36	7.489	
180	98.52	0.07	77.41	2.831	34.59	-3.714	9.202	
200	95.97	0.07	98.29	1.905	51.39	-4.029	11.27	

				Kailua_avg8.txt					
220	92.87	0.07	124.5	1.282	76.35	-4.309	13.83;		
221	92.7	0.07	125.9	1.257	77.88	-4.323	13.97;	merging,	
240	87.99	0.07	166.9	0.863	113.4	-4.622	17.88;		
260	80.39	0.07	238.7	0.58	168.6	-4.953	24.05;		
280	68.89	0.07	352.8	0.391	250.5	-5.292	33.22;		
297	54.61	0.07	494.3	0.279	350.7	-5.586	44.49;	axial vel	
0.022	max dilution reached								
300	51.54	0.07	525.0	0.263	372.2	-5.638	46.91;		
320	25.75	0.07	793.8	0.177	553.0	-5.988	67.23;		
323	21.08	0.07	850.8	0.167	586.8	-6.04	71.03;	axial vel	

0.0948 surface,

Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 174.41 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16588	588.9	175.4	25.0	0.013	0.0	21.2	0.07 3.00E-4
0.166	588.2	176.8	30.0	0.0328	0.0	21.2	0.07 3.00E-4
0.16602	587.9	178.2	35.0	0.0527	0.0	21.2	0.07 3.00E-4
0.16601	587.7	179.6	40.0	0.0725	0.0	21.2	0.07 3.00E-4
0.16597	587.5	181.0	45.0	0.0924	0.0	21.2	0.07 3.00E-4
0.16593	587.4	182.4	50.0	0.112	0.0	21.2	0.07 3.00E-4
0.16588	587.3	183.7	55.0	0.132	0.0	21.2	0.07 3.00E-4
0.16583	587.3	185.1	60.0	0.152	0.0	21.2	0.07 3.00E-4
0.16577	587.2	186.4	65.0	0.172	0.0	21.2	0.07 3.00E-4
0.16571	587.2	187.8	70.0	0.192	0.0	21.2	0.07 3.00E-4
0.16565	587.1	189.1	75.0	0.211	0.0	21.2	0.07 3.00E-4
0.16558	587.1	190.4	80.0	0.231	0.0	21.2	0.07 3.00E-4
0.16551	587.1	191.7	85.0	0.251	0.0	21.2	0.07 3.00E-4
0.16542	587.2	193.0	90.0	0.271	0.0	21.2	0.07 3.00E-4
0.16533	587.2	194.3	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.16523	587.3	195.6	100.0	0.311	0.0	21.2	0.07 3.00E-4
0.16512	587.5	196.9	105.0	0.33	0.0	21.2	0.07 3.00E-4
0.16499	587.7	198.2	110.0	0.35	0.0	21.2	0.07 3.00E-4
0.16485	587.9	199.4	115.0	0.37	0.0	21.2	0.07 3.00E-4
0.1647	588.3	200.7	120.0	0.39	0.0	21.2	0.07 3.00E-4
0.16452	588.6	201.9	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.16433	589.1	203.2	130.0	0.43	0.0	21.2	0.07 3.00E-4
0.16412	589.6	204.4	135.0	0.449	0.0	21.2	0.07 3.00E-4
0.1639	590.1	205.6	140.0	0.469	0.0	21.2	0.07 3.00E-4
0.16365	590.8	206.8	145.0	0.489	0.0	21.2	0.07 3.00E-4
0.16339	591.5	208.0	150.0	0.509	0.0	21.2	0.07 3.00E-4
0.16312	592.2	209.2	155.0	0.529	0.0	21.2	0.07 3.00E-4
0.16284	593.0	210.4	160.0	0.549	0.0	21.2	0.07 3.00E-4
0.16254	593.8	211.6	165.0	0.569	0.0	21.2	0.07 3.00E-4
0.16222	594.8	212.8	170.0	0.588	0.0	21.2	0.07 3.00E-4
0.1619	595.7	214.0	175.0	0.608	0.0	21.2	0.07 3.00E-4
0.16156	596.7	215.1	180.0	0.628	0.0	21.2	0.07 3.00E-4
0.16121	597.8	216.3	185.0	0.648	0.0	21.2	0.07 3.00E-4
0.16085	598.9	217.5	190.0	0.668	0.0	21.2	0.07 3.00E-4
0.16048	600.0	218.6	195.0	0.688	0.0	21.2	0.07 3.00E-4
0.1601	601.2	219.7	200.0	0.707	0.0	21.2	0.07 3.00E-4
0.15971	602.4	220.9	205.0	0.727	0.0	21.2	0.07 3.00E-4
0.15931	603.7	222.0	210.0	0.747	0.0	21.2	0.07 3.00E-4
0.15891	605.0	223.1	215.0	0.767	0.0	21.2	0.07 3.00E-4
0.1585	606.3	224.3	220.0	0.787	0.0	21.2	0.07 3.00E-4
0.15808	607.7	225.4	225.0	0.807	0.0	21.2	0.07 3.00E-4
0.15765	609.1	226.5	230.0	0.826	0.0	21.2	0.07 3.00E-4
0.15722	610.6	227.6	235.0	0.846	0.0	21.2	0.07 3.00E-4
0.15677	612.1	228.7	240.0	0.866	0.0	21.2	0.07 3.00E-4
0.15633	613.6	229.8	245.0	0.886	0.0	21.2	0.07 3.00E-4
0.15589	615.1	230.9	250.0	0.906	0.0	21.2	0.07 3.00E-4
0.15544	616.6	232.0	255.0	0.926	0.0	21.2	0.07 3.00E-4
0.15498	618.2	233.0	260.0	0.946	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt

0.15452	619.8	234.1	265.0	0.965	0.0	21.2	0.07	3.00E-4
0.15406	621.4	235.2	270.0	0.985	0.0	21.2	0.07	3.00E-4
0.15361	623.0	236.2	275.0	1.005	0.0	21.2	0.07	3.00E-4
0.15315	624.6	237.3	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.15269	626.3	238.3	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.15222	627.9	239.4	290.0	1.065	0.0	21.2	0.07	3.00E-4
0.15176	629.6	240.4	295.0	1.084	0.0	21.2	0.07	3.00E-4
0.15129	631.3	241.5	300.0	1.104	0.0	21.2	0.07	3.00E-4
0.15082	633.1	242.5	305.0	1.124	0.0	21.2	0.07	3.00E-4

count: 57
/ Windows UM3.

Case 11; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal	Amb-tem	Amb-pol	Solar rad s-1
					psu	c	kg/kg	
0.07	0.0	90.0	0.07	0.0003	35.1	25.71	0.0	0.000312
0.07	2.0	90.0	0.07	0.0003	35.11	25.71	0.0	0.000312
0.07	4.0	90.0	0.07	0.0003	35.1	25.72	0.0	0.000312
0.07	6.0	90.0	0.07	0.0003	35.1	25.72	0.0	0.000312
0.07	8.0	90.0	0.07	0.0003	35.1	25.73	0.0	0.000312
0.07	10.0	90.0	0.07	0.0003	35.1	25.72	0.0	0.000312
0.07	12.0	90.0	0.07	0.0003	35.11	25.72	0.0	0.000312
0.07	14.0	90.0	0.07	0.0003	35.11	25.71	0.0	0.000312
0.07	16.0	90.0	0.07	0.0003	35.11	25.72	0.0	0.000312
0.07	18.0	90.0	0.07	0.0003	35.11	25.71	0.0	0.000312
0.07	20.0	90.0	0.07	0.0003	35.11	25.71	0.0	0.000312
0.07	22.0	90.0	0.07	0.0003	35.11	25.71	0.0	0.000312
0.07	24.0	90.0	0.07	0.0003	35.11	25.71	0.0	0.000312
0.07	26.0	90.0	0.07	0.0003	35.12	25.71	0.0	0.000312
0.07	28.0	90.0	0.07	0.0003	35.12	25.71	0.0	0.000312
0.07	30.0	90.0	0.07	0.0003	35.11	25.71	0.0	0.000312
0.07	32.0	90.0	0.07	0.0003	35.11	25.62	0.0	0.000312
0.07	33.0	90.0	0.07	0.0003	35.11	25.57	0.0	0.000312
0.07	90.0			0.0003				
	Ttl-flo (MGD)	Temp (C)						
	15.25	28.04						

Froude number: 6.145

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508

Kailua_avg8.txt

80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403;
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508;
120	103.5	0.07	37.05	9.289	10.56	-2.513	4.714;
140	102.2	0.07	47.66	6.251	15.68	-2.962	6.022;
160	100.6	0.07	60.84	4.207	23.28	-3.36	7.489;
180	98.52	0.07	77.41	2.831	34.59	-3.714	9.202;
200	95.97	0.07	98.29	1.905	51.39	-4.029	11.27;
220	92.87	0.07	124.5	1.282	76.35	-4.309	13.83;
221	92.7	0.07	125.9	1.257	77.88	-4.323	13.97; merging,
240	87.99	0.07	166.9	0.863	113.4	-4.622	17.88;
260	80.39	0.07	238.7	0.58	168.6	-4.953	24.05;
280	68.89	0.07	352.8	0.391	250.5	-5.292	33.22;
297	54.61	0.07	494.3	0.279	350.7	-5.586	44.49; axial vel
0.022	max dilution reached						
300	51.54	0.07	525.0	0.263	372.2	-5.638	46.91;
320	25.75	0.07	793.8	0.177	553.0	-5.988	67.23;
323	21.08	0.07	850.8	0.167	586.8	-6.04	71.03; axial vel
0.0948	surface,						
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.41
m							

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16588	588.9	175.4	25.0	0.013	0.0	21.2	0.07 3.00E-4
0.166	588.2	176.8	30.0	0.0328	0.0	21.2	0.07 3.00E-4
0.16602	587.9	178.2	35.0	0.0527	0.0	21.2	0.07 3.00E-4
0.16601	587.7	179.6	40.0	0.0725	0.0	21.2	0.07 3.00E-4
0.16597	587.5	181.0	45.0	0.0924	0.0	21.2	0.07 3.00E-4
0.16593	587.4	182.4	50.0	0.112	0.0	21.2	0.07 3.00E-4
0.16588	587.3	183.7	55.0	0.132	0.0	21.2	0.07 3.00E-4
0.16583	587.3	185.1	60.0	0.152	0.0	21.2	0.07 3.00E-4
0.16577	587.2	186.4	65.0	0.172	0.0	21.2	0.07 3.00E-4
0.16571	587.2	187.8	70.0	0.192	0.0	21.2	0.07 3.00E-4
0.16565	587.1	189.1	75.0	0.211	0.0	21.2	0.07 3.00E-4
0.16558	587.1	190.4	80.0	0.231	0.0	21.2	0.07 3.00E-4
0.16551	587.1	191.7	85.0	0.251	0.0	21.2	0.07 3.00E-4
0.16542	587.2	193.0	90.0	0.271	0.0	21.2	0.07 3.00E-4
0.16533	587.2	194.3	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.16523	587.3	195.6	100.0	0.311	0.0	21.2	0.07 3.00E-4
0.16512	587.5	196.9	105.0	0.33	0.0	21.2	0.07 3.00E-4
0.16499	587.7	198.2	110.0	0.35	0.0	21.2	0.07 3.00E-4
0.16485	587.9	199.4	115.0	0.37	0.0	21.2	0.07 3.00E-4
0.1647	588.3	200.7	120.0	0.39	0.0	21.2	0.07 3.00E-4
0.16452	588.6	201.9	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.16433	589.1	203.2	130.0	0.43	0.0	21.2	0.07 3.00E-4
0.16412	589.6	204.4	135.0	0.449	0.0	21.2	0.07 3.00E-4
0.1639	590.1	205.6	140.0	0.469	0.0	21.2	0.07 3.00E-4
0.16365	590.8	206.8	145.0	0.489	0.0	21.2	0.07 3.00E-4
0.16339	591.5	208.0	150.0	0.509	0.0	21.2	0.07 3.00E-4
0.16312	592.2	209.2	155.0	0.529	0.0	21.2	0.07 3.00E-4
0.16284	593.0	210.4	160.0	0.549	0.0	21.2	0.07 3.00E-4
0.16254	593.8	211.6	165.0	0.569	0.0	21.2	0.07 3.00E-4
0.16222	594.8	212.8	170.0	0.588	0.0	21.2	0.07 3.00E-4
0.1619	595.7	214.0	175.0	0.608	0.0	21.2	0.07 3.00E-4
0.16156	596.7	215.1	180.0	0.628	0.0	21.2	0.07 3.00E-4
0.16121	597.8	216.3	185.0	0.648	0.0	21.2	0.07 3.00E-4
0.16085	598.9	217.5	190.0	0.668	0.0	21.2	0.07 3.00E-4
0.16048	600.0	218.6	195.0	0.688	0.0	21.2	0.07 3.00E-4
0.1601	601.2	219.7	200.0	0.707	0.0	21.2	0.07 3.00E-4
0.15971	602.4	220.9	205.0	0.727	0.0	21.2	0.07 3.00E-4
0.15931	603.7	222.0	210.0	0.747	0.0	21.2	0.07 3.00E-4
0.15891	605.0	223.1	215.0	0.767	0.0	21.2	0.07 3.00E-4
0.1585	606.3	224.3	220.0	0.787	0.0	21.2	0.07 3.00E-4
0.15808	607.7	225.4	225.0	0.807	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt							
0.15765	609.1	226.5	230.0	0.826	0.0	21.2	0.07 3.00E-4
0.15722	610.6	227.6	235.0	0.846	0.0	21.2	0.07 3.00E-4
0.15677	612.1	228.7	240.0	0.866	0.0	21.2	0.07 3.00E-4
0.15633	613.6	229.8	245.0	0.886	0.0	21.2	0.07 3.00E-4
0.15589	615.1	230.9	250.0	0.906	0.0	21.2	0.07 3.00E-4
0.15544	616.6	232.0	255.0	0.926	0.0	21.2	0.07 3.00E-4
0.15498	618.2	233.0	260.0	0.946	0.0	21.2	0.07 3.00E-4
0.15452	619.8	234.1	265.0	0.965	0.0	21.2	0.07 3.00E-4
0.15406	621.4	235.2	270.0	0.985	0.0	21.2	0.07 3.00E-4
0.15361	623.0	236.2	275.0	1.005	0.0	21.2	0.07 3.00E-4
0.15315	624.6	237.3	280.0	1.025	0.0	21.2	0.07 3.00E-4
0.15269	626.3	238.3	285.0	1.045	0.0	21.2	0.07 3.00E-4
0.15222	627.9	239.4	290.0	1.065	0.0	21.2	0.07 3.00E-4
0.15176	629.6	240.4	295.0	1.084	0.0	21.2	0.07 3.00E-4
0.15129	631.3	241.5	300.0	1.104	0.0	21.2	0.07 3.00E-4
0.15082	633.1	242.5	305.0	1.124	0.0	21.2	0.07 3.00E-4

count: 57

/ windows UM3.

Case 12; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
	Far-dir deg	Disprsn m/s ^{0.67} /s ²	deg	psu	C	kg/kg	s-1
0.07	0.0	0.07 0.0003	90.0	35.1	25.71	0.0	0.000312
0.07	2.0	0.07 0.0003	90.0	35.11	25.71	0.0	0.000312
0.07	4.0	0.07 0.0003	90.0	35.1	25.72	0.0	0.000312
0.07	6.0	0.07 0.0003	90.0	35.1	25.72	0.0	0.000312
0.07	8.0	0.07 0.0003	90.0	35.1	25.73	0.0	0.000312
0.07	10.0	0.07 0.0003	90.0	35.1	25.72	0.0	0.000312
0.07	12.0	0.07 0.0003	90.0	35.11	25.72	0.0	0.000312
0.07	14.0	0.07 0.0003	90.0	35.11	25.71	0.0	0.000312
0.07	16.0	0.07 0.0003	90.0	35.11	25.72	0.0	0.000312
0.07	18.0	0.07 0.0003	90.0	35.11	25.71	0.0	0.000312
0.07	20.0	0.07 0.0003	90.0	35.11	25.71	0.0	0.000312
0.07	22.0	0.07 0.0003	90.0	35.11	25.71	0.0	0.000312
0.07	24.0	0.07 0.0003	90.0	35.11	25.71	0.0	0.000312
0.07	26.0	0.07 0.0003	90.0	35.12	25.71	0.0	0.000312
0.07	28.0	0.07 0.0003	90.0	35.12	25.71	0.0	0.000312
0.07	30.0	0.07 0.0003	90.0	35.11	25.71	0.0	0.000312
0.07	32.0	0.07 0.0003	90.0	35.11	25.62	0.0	0.000312
0.07	33.0	0.07 0.0003	90.0	35.11	25.57	0.0	0.000312
0.07	90.0	0.0003					
	Ttl-flo (MGD)	Temp (C)					
	15.25	28.04					

Kailua_avg8.txt

Froude number: 6.145

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403;
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508;
120	103.5	0.07	37.05	9.289	10.56	-2.513	4.714;
140	102.2	0.07	47.66	6.251	15.68	-2.962	6.022;
160	100.6	0.07	60.84	4.207	23.28	-3.36	7.489;
180	98.52	0.07	77.41	2.831	34.59	-3.714	9.202;
200	95.97	0.07	98.29	1.905	51.39	-4.029	11.27;
220	92.87	0.07	124.5	1.282	76.35	-4.309	13.83;
221	92.7	0.07	125.9	1.257	77.88	-4.323	13.97; merging,
240	87.99	0.07	166.9	0.863	113.4	-4.622	17.88;
260	80.39	0.07	238.7	0.58	168.6	-4.953	24.05;
280	68.89	0.07	352.8	0.391	250.5	-5.292	33.22;
297	54.61	0.07	494.3	0.279	350.7	-5.586	44.49; axial vel
0.022	max dilution reached						
300	51.54	0.07	525.0	0.263	372.2	-5.638	46.91;
320	25.75	0.07	793.8	0.177	553.0	-5.988	67.23;
323	21.08	0.07	850.8	0.167	586.8	-6.04	71.03; axial vel

0.0948 surface,

Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 174.41 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16588	588.9	175.4	25.0	0.013	0.0	21.2	0.07 3.00E-4
0.166	588.2	176.8	30.0	0.0328	0.0	21.2	0.07 3.00E-4
0.16602	587.9	178.2	35.0	0.0527	0.0	21.2	0.07 3.00E-4
0.16601	587.7	179.6	40.0	0.0725	0.0	21.2	0.07 3.00E-4
0.16597	587.5	181.0	45.0	0.0924	0.0	21.2	0.07 3.00E-4
0.16593	587.4	182.4	50.0	0.112	0.0	21.2	0.07 3.00E-4
0.16588	587.3	183.7	55.0	0.132	0.0	21.2	0.07 3.00E-4
0.16583	587.3	185.1	60.0	0.152	0.0	21.2	0.07 3.00E-4
0.16577	587.2	186.4	65.0	0.172	0.0	21.2	0.07 3.00E-4
0.16571	587.2	187.8	70.0	0.192	0.0	21.2	0.07 3.00E-4
0.16565	587.1	189.1	75.0	0.211	0.0	21.2	0.07 3.00E-4
0.16558	587.1	190.4	80.0	0.231	0.0	21.2	0.07 3.00E-4
0.16551	587.1	191.7	85.0	0.251	0.0	21.2	0.07 3.00E-4
0.16542	587.2	193.0	90.0	0.271	0.0	21.2	0.07 3.00E-4
0.16533	587.2	194.3	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.16523	587.3	195.6	100.0	0.311	0.0	21.2	0.07 3.00E-4
0.16512	587.5	196.9	105.0	0.33	0.0	21.2	0.07 3.00E-4
0.16499	587.7	198.2	110.0	0.35	0.0	21.2	0.07 3.00E-4
0.16485	587.9	199.4	115.0	0.37	0.0	21.2	0.07 3.00E-4
0.1647	588.3	200.7	120.0	0.39	0.0	21.2	0.07 3.00E-4
0.16452	588.6	201.9	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.16433	589.1	203.2	130.0	0.43	0.0	21.2	0.07 3.00E-4
0.16412	589.6	204.4	135.0	0.449	0.0	21.2	0.07 3.00E-4
0.1639	590.1	205.6	140.0	0.469	0.0	21.2	0.07 3.00E-4
0.16365	590.8	206.8	145.0	0.489	0.0	21.2	0.07 3.00E-4
0.16339	591.5	208.0	150.0	0.509	0.0	21.2	0.07 3.00E-4
0.16312	592.2	209.2	155.0	0.529	0.0	21.2	0.07 3.00E-4
0.16284	593.0	210.4	160.0	0.549	0.0	21.2	0.07 3.00E-4
0.16254	593.8	211.6	165.0	0.569	0.0	21.2	0.07 3.00E-4
0.16222	594.8	212.8	170.0	0.588	0.0	21.2	0.07 3.00E-4
0.1619	595.7	214.0	175.0	0.608	0.0	21.2	0.07 3.00E-4
0.16156	596.7	215.1	180.0	0.628	0.0	21.2	0.07 3.00E-4
0.16121	597.8	216.3	185.0	0.648	0.0	21.2	0.07 3.00E-4
0.16085	598.9	217.5	190.0	0.668	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt								
0.16048	600.0	218.6	195.0	0.688	0.0	21.2	0.07	3.00E-4
0.1601	601.2	219.7	200.0	0.707	0.0	21.2	0.07	3.00E-4
0.15971	602.4	220.9	205.0	0.727	0.0	21.2	0.07	3.00E-4
0.15931	603.7	222.0	210.0	0.747	0.0	21.2	0.07	3.00E-4
0.15891	605.0	223.1	215.0	0.767	0.0	21.2	0.07	3.00E-4
0.1585	606.3	224.3	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.15808	607.7	225.4	225.0	0.807	0.0	21.2	0.07	3.00E-4
0.15765	609.1	226.5	230.0	0.826	0.0	21.2	0.07	3.00E-4
0.15722	610.6	227.6	235.0	0.846	0.0	21.2	0.07	3.00E-4
0.15677	612.1	228.7	240.0	0.866	0.0	21.2	0.07	3.00E-4
0.15633	613.6	229.8	245.0	0.886	0.0	21.2	0.07	3.00E-4
0.15589	615.1	230.9	250.0	0.906	0.0	21.2	0.07	3.00E-4
0.15544	616.6	232.0	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.15498	618.2	233.0	260.0	0.946	0.0	21.2	0.07	3.00E-4
0.15452	619.8	234.1	265.0	0.965	0.0	21.2	0.07	3.00E-4
0.15406	621.4	235.2	270.0	0.985	0.0	21.2	0.07	3.00E-4
0.15361	623.0	236.2	275.0	1.005	0.0	21.2	0.07	3.00E-4
0.15315	624.6	237.3	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.15269	626.3	238.3	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.15222	627.9	239.4	290.0	1.065	0.0	21.2	0.07	3.00E-4
0.15176	629.6	240.4	295.0	1.084	0.0	21.2	0.07	3.00E-4
0.15129	631.3	241.5	300.0	1.104	0.0	21.2	0.07	3.00E-4
0.15082	633.1	242.5	305.0	1.124	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 13; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn 0.67/s ²	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	0.07	90.0	0.0003	35.19	22.84	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.19	22.85	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.19	22.86	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.19	22.86	0.0	0.000312
0.07	8.0	0.07	90.0	0.0003	35.19	22.86	0.0	0.000312
0.07	10.0	0.07	90.0	0.0003	35.19	22.86	0.0	0.000312
0.07	12.0	0.07	90.0	0.0003	35.19	22.86	0.0	0.000312
0.07	14.0	0.07	90.0	0.0003	35.19	22.86	0.0	0.000312
0.07	16.0	0.07	90.0	0.0003	35.19	22.86	0.0	0.000312
0.07	18.0	0.07	90.0	0.0003	35.19	22.86	0.0	0.000312
0.07	20.0	0.07	90.0	0.0003	35.19	22.86	0.0	0.000312
0.07	22.0	0.07	90.0	0.0003	35.2	22.86	0.0	0.000312
0.07	24.0	0.07	90.0	0.0003	35.19	22.86	0.0	0.000312
0.07	26.0	0.07	90.0	0.0003	35.2	22.86	0.0	0.000312
0.07	28.0	0.07	90.0	0.0003	35.2	22.88	0.0	0.000312
0.07	30.0	0.07	90.0	0.0003	35.2	22.88	0.0	0.000312
0.07	32.0	0.07	90.0	0.0003				

Kailua_avg8.txt

0.07	32.0	0.07	90.0	35.2	22.88	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.2	22.88	0.0	0.000312
	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
15.25	28.04						
Froude number:	6.024						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.5	45.29	2.181	-0.558	0.837;
60	105.3	0.07	15.04	30.48	3.23	-0.966	1.506;
80	105.0	0.07	20.98	20.51	4.789	-1.462	2.399;
100	104.4	0.07	28.21	13.8	7.106	-1.999	3.493;
120	103.4	0.07	36.81	9.289	10.55	-2.498	4.683;
140	102.2	0.07	47.28	6.251	15.66	-2.941	5.971;
160	100.5	0.07	60.29	4.207	23.26	-3.333	7.415;
180	98.4	0.07	76.61	2.831	34.56	-3.68	9.099;
200	95.81	0.07	97.18	1.905	51.34	-3.99	11.13;
220	92.65	0.07	123.1	1.282	76.28	-4.265	13.64;
222	92.3	0.07	126.0	1.232	79.36	-4.291	13.92; merging,
240	87.79	0.07	164.5	0.863	113.3	-4.566	17.56;
260	80.14	0.07	234.2	0.58	168.4	-4.889	23.57;
280	68.53	0.07	342.9	0.391	250.2	-5.218	32.47;
297	54.16	0.07	480.9	0.279	350.4	-5.5	43.3; axial vel
0.0222	max dilution reached						
300	51.08	0.07	510.8	0.263	371.8	-5.551	45.62;
320	24.91	0.07	762.5	0.177	552.5	-5.888	65.23; axial vel
0.076							
323	19.99	0.07	809.6	0.167	586.3	-5.939	68.9; surface,
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of	173.37	m				
conc	dilutn	width	distnce	time			
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16592	588.2	174.5	25.0	0.0156	0.0	21.2	0.07 3.00E-4
0.16602	587.6	175.9	30.0	0.0354	0.0	21.2	0.07 3.00E-4
0.16603	587.3	177.3	35.0	0.0552	0.0	21.2	0.07 3.00E-4
0.16601	587.1	178.7	40.0	0.0751	0.0	21.2	0.07 3.00E-4
0.16598	587.0	180.1	45.0	0.0949	0.0	21.2	0.07 3.00E-4
0.16593	586.9	181.5	50.0	0.115	0.0	21.2	0.07 3.00E-4
0.16588	586.8	182.8	55.0	0.135	0.0	21.2	0.07 3.00E-4
0.16583	586.7	184.2	60.0	0.154	0.0	21.2	0.07 3.00E-4
0.16577	586.7	185.5	65.0	0.174	0.0	21.2	0.07 3.00E-4
0.16571	586.6	186.9	70.0	0.194	0.0	21.2	0.07 3.00E-4
0.16565	586.6	188.2	75.0	0.214	0.0	21.2	0.07 3.00E-4
0.16558	586.6	189.5	80.0	0.234	0.0	21.2	0.07 3.00E-4
0.16555	586.6	190.8	85.0	0.254	0.0	21.2	0.07 3.00E-4
0.16542	586.7	192.1	90.0	0.273	0.0	21.2	0.07 3.00E-4
0.16533	586.7	193.4	95.0	0.293	0.0	21.2	0.07 3.00E-4
0.16523	586.8	194.7	100.0	0.313	0.0	21.2	0.07 3.00E-4
0.16511	587.0	196.0	105.0	0.333	0.0	21.2	0.07 3.00E-4
0.16498	587.2	197.2	110.0	0.353	0.0	21.2	0.07 3.00E-4
0.16484	587.5	198.5	115.0	0.373	0.0	21.2	0.07 3.00E-4
0.16468	587.8	199.7	120.0	0.393	0.0	21.2	0.07 3.00E-4
0.1645	588.2	201.0	125.0	0.412	0.0	21.2	0.07 3.00E-4
0.1643	588.6	202.2	130.0	0.432	0.0	21.2	0.07 3.00E-4
0.16409	589.2	203.4	135.0	0.452	0.0	21.2	0.07 3.00E-4
0.16386	589.7	204.6	140.0	0.472	0.0	21.2	0.07 3.00E-4
0.16361	590.4	205.9	145.0	0.492	0.0	21.2	0.07 3.00E-4
0.16335	591.1	207.1	150.0	0.512	0.0	21.2	0.07 3.00E-4
0.16307	591.9	208.3	155.0	0.531	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt							
0.16278	592.7	209.5	160.0	0.551	0.0	21.2	0.07 3.00E-4
0.16248	593.5	210.6	165.0	0.571	0.0	21.2	0.07 3.00E-4
0.16216	594.5	211.8	170.0	0.591	0.0	21.2	0.07 3.00E-4
0.16183	595.4	213.0	175.0	0.611	0.0	21.2	0.07 3.00E-4
0.16149	596.5	214.1	180.0	0.631	0.0	21.2	0.07 3.00E-4
0.16114	597.5	215.3	185.0	0.65	0.0	21.2	0.07 3.00E-4
0.16078	598.6	216.5	190.0	0.67	0.0	21.2	0.07 3.00E-4
0.1604	599.8	217.6	195.0	0.69	0.0	21.2	0.07 3.00E-4
0.16002	601.0	218.7	200.0	0.71	0.0	21.2	0.07 3.00E-4
0.15963	602.2	219.9	205.0	0.73	0.0	21.2	0.07 3.00E-4
0.15923	603.5	221.0	210.0	0.75	0.0	21.2	0.07 3.00E-4
0.15882	604.8	222.1	215.0	0.77	0.0	21.2	0.07 3.00E-4
0.15841	606.2	223.2	220.0	0.789	0.0	21.2	0.07 3.00E-4
0.15798	607.6	224.3	225.0	0.809	0.0	21.2	0.07 3.00E-4
0.15755	609.0	225.5	230.0	0.829	0.0	21.2	0.07 3.00E-4
0.15711	610.4	226.6	235.0	0.849	0.0	21.2	0.07 3.00E-4
0.15666	612.0	227.6	240.0	0.869	0.0	21.2	0.07 3.00E-4
0.15622	613.5	228.7	245.0	0.889	0.0	21.2	0.07 3.00E-4
0.15577	615.0	229.8	250.0	0.908	0.0	21.2	0.07 3.00E-4
0.15532	616.6	230.9	255.0	0.928	0.0	21.2	0.07 3.00E-4
0.15486	618.1	232.0	260.0	0.948	0.0	21.2	0.07 3.00E-4
0.1544	619.7	233.0	265.0	0.968	0.0	21.2	0.07 3.00E-4
0.15395	621.3	234.1	270.0	0.988	0.0	21.2	0.07 3.00E-4
0.15349	623.0	235.2	275.0	1.008	0.0	21.2	0.07 3.00E-4
0.15303	624.6	236.2	280.0	1.027	0.0	21.2	0.07 3.00E-4
0.15256	626.3	237.3	285.0	1.047	0.0	21.2	0.07 3.00E-4
0.15209	628.0	238.3	290.0	1.067	0.0	21.2	0.07 3.00E-4
0.15162	629.7	239.4	295.0	1.087	0.0	21.2	0.07 3.00E-4
0.15115	631.4	240.4	300.0	1.107	0.0	21.2	0.07 3.00E-4
0.15068	633.1	241.4	305.0	1.127	0.0	21.2	0.07 3.00E-4

count: 57

/ Windows UM3.

Case 14; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur		Amb-dir deg	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
		Far-dir deg	Disprsn m0.67/s2	deg				
0.07	0.0	90.0	0.0003	90.0	35.19	22.84	0.0	0.000312
0.07	2.0	90.0	0.0003	90.0	35.19	22.85	0.0	0.000312
0.07	4.0	90.0	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	6.0	90.0	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	8.0	90.0	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	10.0	90.0	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	12.0	90.0	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	14.0	90.0	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	16.0	90.0	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	18.0	90.0	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	20.0	90.0	0.0003	90.0	35.19	22.86	0.0	0.000312
0.07	22.0	90.0	0.0003	90.0	35.2	22.86	0.0	0.000312
0.07	24.0	90.0	0.0003	90.0	35.19	22.86	0.0	0.000312

Kailua_avg8.txt

0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.2	22.86	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.2	22.88	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.2	22.88	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.2	22.88	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.2	22.88	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.024							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.5	45.29	2.181	-0.558	0.837	
60	105.3	0.07	15.04	30.48	3.23	-0.966	1.506	
80	105.0	0.07	20.98	20.51	4.789	-1.462	2.399	
100	104.4	0.07	28.21	13.8	7.106	-1.999	3.493	
120	103.4	0.07	36.81	9.289	10.55	-2.498	4.683	
140	102.2	0.07	47.28	6.251	15.66	-2.941	5.971	
160	100.5	0.07	60.29	4.207	23.26	-3.333	7.415	
180	98.4	0.07	76.61	2.831	34.56	-3.68	9.099	
200	95.81	0.07	97.18	1.905	51.34	-3.99	11.13	
220	92.65	0.07	123.1	1.282	76.28	-4.265	13.64	
222	92.3	0.07	126.0	1.232	79.36	-4.291	13.92	
240	87.79	0.07	164.5	0.863	113.3	-4.566	17.56	
260	80.14	0.07	234.2	0.58	168.4	-4.889	23.57	
280	68.53	0.07	342.9	0.391	250.2	-5.218	32.47	
297	54.16	0.07	480.9	0.279	350.4	-5.5	43.3	
0.0222	max dilution reached						axial vel	
300	51.08	0.07	510.8	0.263	371.8	-5.551	45.62	
320	24.91	0.07	762.5	0.177	552.5	-5.888	65.23	
0.076							axial vel	
323	19.99	0.07	809.6	0.167	586.3	-5.939	68.9; surface,	
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						173.37	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr) (m/s)(m ^{0.67} /s ²)	
0.16592	588.2	174.5	25.0	0.0156	0.0	21.2	0.07 3.00E-4	
0.16602	587.6	175.9	30.0	0.0354	0.0	21.2	0.07 3.00E-4	
0.16603	587.3	177.3	35.0	0.0552	0.0	21.2	0.07 3.00E-4	
0.16601	587.1	178.7	40.0	0.0751	0.0	21.2	0.07 3.00E-4	
0.16598	587.0	180.1	45.0	0.0949	0.0	21.2	0.07 3.00E-4	
0.16593	586.9	181.5	50.0	0.115	0.0	21.2	0.07 3.00E-4	
0.16588	586.8	182.8	55.0	0.135	0.0	21.2	0.07 3.00E-4	
0.16583	586.7	184.2	60.0	0.154	0.0	21.2	0.07 3.00E-4	
0.16577	586.7	185.5	65.0	0.174	0.0	21.2	0.07 3.00E-4	
0.16571	586.6	186.9	70.0	0.194	0.0	21.2	0.07 3.00E-4	
0.16565	586.6	188.2	75.0	0.214	0.0	21.2	0.07 3.00E-4	
0.16558	586.6	189.5	80.0	0.234	0.0	21.2	0.07 3.00E-4	
0.16555	586.6	190.8	85.0	0.254	0.0	21.2	0.07 3.00E-4	
0.16542	586.7	192.1	90.0	0.273	0.0	21.2	0.07 3.00E-4	
0.16533	586.7	193.4	95.0	0.293	0.0	21.2	0.07 3.00E-4	
0.16523	586.8	194.7	100.0	0.313	0.0	21.2	0.07 3.00E-4	
0.16511	587.0	196.0	105.0	0.333	0.0	21.2	0.07 3.00E-4	
0.16498	587.2	197.2	110.0	0.353	0.0	21.2	0.07 3.00E-4	
0.16484	587.5	198.5	115.0	0.373	0.0	21.2	0.07 3.00E-4	
0.16468	587.8	199.7	120.0	0.393	0.0	21.2	0.07 3.00E-4	

Kailua_avg8.txt								
0.1645	588.2	201.0	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.1643	588.6	202.2	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.16409	589.2	203.4	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.16386	589.7	204.6	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.16361	590.4	205.9	145.0	0.492	0.0	21.2	0.07	3.00E-4
0.16335	591.1	207.1	150.0	0.512	0.0	21.2	0.07	3.00E-4
0.16307	591.9	208.3	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.16278	592.7	209.5	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.16248	593.5	210.6	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.16216	594.5	211.8	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.16183	595.4	213.0	175.0	0.611	0.0	21.2	0.07	3.00E-4
0.16149	596.5	214.1	180.0	0.631	0.0	21.2	0.07	3.00E-4
0.16114	597.5	215.3	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.16078	598.6	216.5	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.1604	599.8	217.6	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.16002	601.0	218.7	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.15963	602.2	219.9	205.0	0.73	0.0	21.2	0.07	3.00E-4
0.15923	603.5	221.0	210.0	0.75	0.0	21.2	0.07	3.00E-4
0.15882	604.8	222.1	215.0	0.77	0.0	21.2	0.07	3.00E-4
0.15841	606.2	223.2	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.15798	607.6	224.3	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.15755	609.0	225.5	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.15711	610.4	226.6	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.15666	612.0	227.6	240.0	0.869	0.0	21.2	0.07	3.00E-4
0.15622	613.5	228.7	245.0	0.889	0.0	21.2	0.07	3.00E-4
0.15577	615.0	229.8	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.15532	616.6	230.9	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.15486	618.1	232.0	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.1544	619.7	233.0	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.15395	621.3	234.1	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.15349	623.0	235.2	275.0	1.008	0.0	21.2	0.07	3.00E-4
0.15303	624.6	236.2	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.15256	626.3	237.3	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.15209	628.0	238.3	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.15162	629.7	239.4	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.15115	631.4	240.4	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.15068	633.1	241.4	305.0	1.127	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 15; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir	Disprsn						s-1
m/s	m	m/s	deg	psu	c	kg/kg		
0.07	0.0	0.07	90.0	35.19	22.84	0.0	0.000312	
0.07	2.0	0.07	90.0	35.19	22.85	0.0	0.000312	
0.07	4.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	6.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	8.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	10.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	12.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	14.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	16.0	0.07	90.0	35.19	22.86	0.0	0.000312	
0.07	90.0	0.0003						

Kailua_avg8.txt

0.07	18.0	0.07	90.0	35.19	22.86	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	35.19	22.86	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	35.2	22.86	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	35.19	22.86	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	35.2	22.86	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	35.2	22.88	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	35.2	22.88	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.2	22.88	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.2	22.88	0.0	0.000312
	90.0	0.0003					
0.07	Ttl-flo	Temp					
	(MGD)	(C)					
	15.25	28.04					
Froude number:	6.024						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.5	45.29	2.181	-0.558	0.837
60	105.3	0.07	15.04	30.48	3.23	-0.966	1.506
80	105.0	0.07	20.98	20.51	4.789	-1.462	2.399
100	104.4	0.07	28.21	13.8	7.106	-1.999	3.493
120	103.4	0.07	36.81	9.289	10.55	-2.498	4.683
140	102.2	0.07	47.28	6.251	15.66	-2.941	5.971
160	100.5	0.07	60.29	4.207	23.26	-3.333	7.415
180	98.4	0.07	76.61	2.831	34.56	-3.68	9.099
200	95.81	0.07	97.18	1.905	51.34	-3.99	11.13
220	92.65	0.07	123.1	1.282	76.28	-4.265	13.64
222	92.3	0.07	126.0	1.232	79.36	-4.291	13.92
240	87.79	0.07	164.5	0.863	113.3	-4.566	17.56
260	80.14	0.07	234.2	0.58	168.4	-4.889	23.57
280	68.53	0.07	342.9	0.391	250.2	-5.218	32.47
297	54.16	0.07	480.9	0.279	350.4	-5.5	43.3
0.0222	max dilution reached						axial vel
300	51.08	0.07	510.8	0.263	371.8	-5.551	45.62
320	24.91	0.07	762.5	0.177	552.5	-5.888	65.23
0.076							axial vel
323	19.99	0.07	809.6	0.167	586.3	-5.939	68.9
Const Eddy Diffusivity.	Farfield dispersion	based on wastefield width of	173.37	m			
conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s) (m ^{0.67} /s ²)
0.16592	588.2	174.5	25.0	0.0156	0.0	21.2	0.07 3.00E-4
0.16602	587.6	175.9	30.0	0.0354	0.0	21.2	0.07 3.00E-4
0.16603	587.3	177.3	35.0	0.0552	0.0	21.2	0.07 3.00E-4
0.16601	587.1	178.7	40.0	0.0751	0.0	21.2	0.07 3.00E-4
0.16598	587.0	180.1	45.0	0.0949	0.0	21.2	0.07 3.00E-4
0.16593	586.9	181.5	50.0	0.115	0.0	21.2	0.07 3.00E-4
0.16588	586.8	182.8	55.0	0.135	0.0	21.2	0.07 3.00E-4
0.16583	586.7	184.2	60.0	0.154	0.0	21.2	0.07 3.00E-4
0.16577	586.7	185.5	65.0	0.174	0.0	21.2	0.07 3.00E-4
0.16571	586.6	186.9	70.0	0.194	0.0	21.2	0.07 3.00E-4
0.16565	586.6	188.2	75.0	0.214	0.0	21.2	0.07 3.00E-4
0.16558	586.6	189.5	80.0	0.234	0.0	21.2	0.07 3.00E-4
0.1655	586.6	190.8	85.0	0.254	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt								
0.16542	586.7	192.1	90.0	0.273	0.0	21.2	0.07	3.00E-4
0.16533	586.7	193.4	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.16523	586.8	194.7	100.0	0.313	0.0	21.2	0.07	3.00E-4
0.16511	587.0	196.0	105.0	0.333	0.0	21.2	0.07	3.00E-4
0.16498	587.2	197.2	110.0	0.353	0.0	21.2	0.07	3.00E-4
0.16484	587.5	198.5	115.0	0.373	0.0	21.2	0.07	3.00E-4
0.16468	587.8	199.7	120.0	0.393	0.0	21.2	0.07	3.00E-4
0.1645	588.2	201.0	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.1643	588.6	202.2	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.16409	589.2	203.4	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.16386	589.7	204.6	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.16361	590.4	205.9	145.0	0.492	0.0	21.2	0.07	3.00E-4
0.16335	591.1	207.1	150.0	0.512	0.0	21.2	0.07	3.00E-4
0.16307	591.9	208.3	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.16278	592.7	209.5	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.16248	593.5	210.6	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.16216	594.5	211.8	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.16183	595.4	213.0	175.0	0.611	0.0	21.2	0.07	3.00E-4
0.16149	596.5	214.1	180.0	0.631	0.0	21.2	0.07	3.00E-4
0.16114	597.5	215.3	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.16078	598.6	216.5	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.1604	599.8	217.6	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.16002	601.0	218.7	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.15963	602.2	219.9	205.0	0.73	0.0	21.2	0.07	3.00E-4
0.15923	603.5	221.0	210.0	0.75	0.0	21.2	0.07	3.00E-4
0.15882	604.8	222.1	215.0	0.77	0.0	21.2	0.07	3.00E-4
0.15841	606.2	223.2	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.15798	607.6	224.3	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.15755	609.0	225.5	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.15711	610.4	226.6	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.15666	612.0	227.6	240.0	0.869	0.0	21.2	0.07	3.00E-4
0.15622	613.5	228.7	245.0	0.889	0.0	21.2	0.07	3.00E-4
0.15577	615.0	229.8	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.15532	616.6	230.9	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.15486	618.1	232.0	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.1544	619.7	233.0	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.15395	621.3	234.1	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.15349	623.0	235.2	275.0	1.008	0.0	21.2	0.07	3.00E-4
0.15303	624.6	236.2	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.15256	626.3	237.3	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.15209	628.0	238.3	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.15162	629.7	239.4	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.15115	631.4	240.4	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.15068	633.1	241.4	305.0	1.127	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 16; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	solar	rad
	Far-dir	Disprsn						
m/s	m	m/s	deg	psu	c	kg/kg	s-1	
0.07	0.0	0.07	90.0	35.12	23.24	0.0	0.000312	
	2.0	0.07	90.0	35.12	23.24	0.0	0.000312	
0.07	4.0	0.07	90.0	35.12	23.24	0.0	0.000312	
	6.0	0.07	90.0	35.12	23.24	0.0	0.000312	
0.07	8.0	0.07	90.0	35.12	23.24	0.0	0.000312	
	10.0	0.07	90.0	35.12	23.23	0.0	0.000312	

Kailua_avg8.txt

0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.12	23.24	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.12	23.23	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.12	23.23	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.12	23.23	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.12	23.23	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.11	23.2	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.13	23.14	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.11	23.1	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.16	22.98	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.17	22.95	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.17	22.94	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.15	22.9	0.0	0.000312	
0.07	90.0	0.0003						
Tt1-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.03							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.5	45.29	2.181	-0.558	0.837;	
60	105.3	0.07	15.04	30.48	3.23	-0.966	1.506;	
80	105.0	0.07	20.98	20.51	4.789	-1.462	2.399;	
100	104.4	0.07	28.21	13.8	7.106	-2.0	3.494;	
120	103.4	0.07	36.82	9.289	10.55	-2.499	4.684;	
140	102.2	0.07	47.3	6.251	15.66	-2.942	5.973;	
160	100.5	0.07	60.31	4.207	23.27	-3.334	7.418;	
180	98.4	0.07	76.66	2.831	34.56	-3.682	9.104;	
200	95.82	0.07	97.28	1.905	51.35	-3.992	11.14;	
220	92.67	0.07	123.4	1.282	76.29	-4.267	13.65;	
222	92.33	0.07	126.4	1.232	79.37	-4.293	13.93; merging,	
240	87.87	0.07	167.2	0.863	113.3	-4.571	17.6;	
260	80.67	0.07	252.6	0.58	168.4	-4.906	23.86;	
280	70.03	0.07	395.7	0.391	250.3	-5.277	33.9; axial vel	
0.0121								
297	57.83	0.07	599.3	0.279	350.4	-5.623	47.22; max dilution	
reached								
300	55.23	0.07	643.0	0.263	371.9	-5.689	50.29;	
320	33.3	0.07	1012.1	0.177	552.6	-6.165	78.03; surface,	
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						178.51	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(m/s)(m ^{0.67} /s ²)	
0.17587	555.1	178.8	25.0	0.00454	0.0	21.2	0.07 3.00E-4	
0.1761	554.1	180.3	30.0	0.0244	0.0	21.2	0.07 3.00E-4	
0.17615	553.7	181.7	35.0	0.0442	0.0	21.2	0.07 3.00E-4	
0.17614	553.4	183.1	40.0	0.0641	0.0	21.2	0.07 3.00E-4	
0.17611	553.3	184.5	45.0	0.0839	0.0	21.2	0.07 3.00E-4	
0.17607	553.2	185.9	50.0	0.104	0.0	21.2	0.07 3.00E-4	
0.17602	553.1	187.3	55.0	0.124	0.0	21.2	0.07 3.00E-4	

Kailua_avg8.txt

0.17597	553.0	188.7	60.0	0.143	0.0	21.2	0.07	3.00E-4
0.17591	553.0	190.1	65.0	0.163	0.0	21.2	0.07	3.00E-4
0.17585	552.9	191.4	70.0	0.183	0.0	21.2	0.07	3.00E-4
0.17578	552.9	192.8	75.0	0.203	0.0	21.2	0.07	3.00E-4
0.17571	552.9	194.1	80.0	0.223	0.0	21.2	0.07	3.00E-4
0.17564	552.8	195.4	85.0	0.243	0.0	21.2	0.07	3.00E-4
0.17556	552.9	196.7	90.0	0.262	0.0	21.2	0.07	3.00E-4
0.17547	552.9	198.0	95.0	0.282	0.0	21.2	0.07	3.00E-4
0.17537	553.0	199.3	100.0	0.302	0.0	21.2	0.07	3.00E-4
0.17526	553.1	200.6	105.0	0.322	0.0	21.2	0.07	3.00E-4
0.17514	553.2	201.9	110.0	0.342	0.0	21.2	0.07	3.00E-4
0.175	553.4	203.2	115.0	0.362	0.0	21.2	0.07	3.00E-4
0.17484	553.7	204.5	120.0	0.382	0.0	21.2	0.07	3.00E-4
0.17467	554.0	205.7	125.0	0.401	0.0	21.2	0.07	3.00E-4
0.17449	554.3	207.0	130.0	0.421	0.0	21.2	0.07	3.00E-4
0.17428	554.8	208.2	135.0	0.441	0.0	21.2	0.07	3.00E-4
0.17406	555.2	209.5	140.0	0.461	0.0	21.2	0.07	3.00E-4
0.17382	555.8	210.7	145.0	0.481	0.0	21.2	0.07	3.00E-4
0.17356	556.4	211.9	150.0	0.501	0.0	21.2	0.07	3.00E-4
0.17329	557.0	213.1	155.0	0.52	0.0	21.2	0.07	3.00E-4
0.173	557.7	214.3	160.0	0.54	0.0	21.2	0.07	3.00E-4
0.1727	558.5	215.5	165.0	0.56	0.0	21.2	0.07	3.00E-4
0.17238	559.3	216.7	170.0	0.58	0.0	21.2	0.07	3.00E-4
0.17205	560.1	217.9	175.0	0.6	0.0	21.2	0.07	3.00E-4
0.17171	561.0	219.1	180.0	0.62	0.0	21.2	0.07	3.00E-4
0.17135	562.0	220.3	185.0	0.639	0.0	21.2	0.07	3.00E-4
0.17099	562.9	221.5	190.0	0.659	0.0	21.2	0.07	3.00E-4
0.17061	563.9	222.6	195.0	0.679	0.0	21.2	0.07	3.00E-4
0.17023	565.0	223.8	200.0	0.699	0.0	21.2	0.07	3.00E-4
0.16983	566.1	224.9	205.0	0.719	0.0	21.2	0.07	3.00E-4
0.16942	567.3	226.1	210.0	0.739	0.0	21.2	0.07	3.00E-4
0.169	568.4	227.2	215.0	0.759	0.0	21.2	0.07	3.00E-4
0.16858	569.6	228.4	220.0	0.778	0.0	21.2	0.07	3.00E-4
0.16815	570.9	229.5	225.0	0.798	0.0	21.2	0.07	3.00E-4
0.16771	572.1	230.6	230.0	0.818	0.0	21.2	0.07	3.00E-4
0.16727	573.4	231.7	235.0	0.838	0.0	21.2	0.07	3.00E-4
0.16681	574.8	232.8	240.0	0.858	0.0	21.2	0.07	3.00E-4
0.16634	576.2	233.9	245.0	0.878	0.0	21.2	0.07	3.00E-4
0.16588	577.6	235.0	250.0	0.897	0.0	21.2	0.07	3.00E-4
0.16542	579.0	236.1	255.0	0.917	0.0	21.2	0.07	3.00E-4
0.16495	580.4	237.2	260.0	0.937	0.0	21.2	0.07	3.00E-4
0.16447	581.8	238.3	265.0	0.957	0.0	21.2	0.07	3.00E-4
0.16399	583.3	239.4	270.0	0.977	0.0	21.2	0.07	3.00E-4
0.16351	584.8	240.5	275.0	0.997	0.0	21.2	0.07	3.00E-4
0.16304	586.3	241.6	280.0	1.016	0.0	21.2	0.07	3.00E-4
0.16256	587.8	242.6	285.0	1.036	0.0	21.2	0.07	3.00E-4
0.16208	589.3	243.7	290.0	1.056	0.0	21.2	0.07	3.00E-4
0.16159	590.9	244.7	295.0	1.076	0.0	21.2	0.07	3.00E-4
0.1611	592.4	245.8	300.0	1.096	0.0	21.2	0.07	3.00E-4
0.16061	594.0	246.8	305.0	1.116	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 17; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir	Disprsn	deg		psu	C	kg/kg	s-1
m/s	m	m/s	m ^{0.67} /s ²					
0.07	0.0	0.07	0.07	35.12	23.24	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.12	23.24	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.12	23.24	0.0	0.000312	

Kailua_avg8.txt

0.07	90.0	0.0003						
0.07	6.0	0.07	90.0	35.12	23.24	0.0	0.000312	
0.07	90.0	0.0003						
0.07	8.0	0.07	90.0	35.12	23.24	0.0	0.000312	
0.07	90.0	0.0003						
0.07	10.0	0.07	90.0	35.12	23.23	0.0	0.000312	
0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.12	23.24	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.12	23.23	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.12	23.23	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.12	23.23	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.12	23.23	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.11	23.2	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.13	23.14	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.11	23.1	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.16	22.98	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.17	22.95	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.17	22.94	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.15	22.9	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.03							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.5	45.29	2.181	-0.558	0.837;	
60	105.3	0.07	15.04	30.48	3.23	-0.966	1.506;	
80	105.0	0.07	20.98	20.51	4.789	-1.462	2.399;	
100	104.4	0.07	28.21	13.8	7.106	-2.0	3.494;	
120	103.4	0.07	36.82	9.289	10.55	-2.499	4.684;	
140	102.2	0.07	47.3	6.251	15.66	-2.942	5.973;	
160	100.5	0.07	60.31	4.207	23.27	-3.334	7.418;	
180	98.4	0.07	76.66	2.831	34.56	-3.682	9.104;	
200	95.82	0.07	97.28	1.905	51.35	-3.992	11.14;	
220	92.67	0.07	123.4	1.282	76.29	-4.267	13.65;	
222	92.33	0.07	126.4	1.232	79.37	-4.293	13.93; merging,	
240	87.87	0.07	167.2	0.863	113.3	-4.571	17.6;	
260	80.67	0.07	252.6	0.58	168.4	-4.906	23.86;	
280	70.03	0.07	395.7	0.391	250.3	-5.277	33.9; axial vel	
0.0121	297	57.83	0.07	599.3	0.279	350.4	-5.623	
reached							47.22; max dilution	
300	55.23	0.07	643.0	0.263	371.9	-5.689	50.29;	
320	33.3	0.07	1012.1	0.177	552.6	-6.165	78.03; surface,	
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						178.51	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr)	
0.17587	555.1		178.8	25.0	0.00454	0.0	21.2	
						(m/s)	(m ^{0.67} /s ²)	
						0.07	3.00E-4	

Kailua_avg8.txt

0.1761	554.1	180.3	30.0	0.0244	0.0	21.2	0.07	3.00E-4
0.17615	553.7	181.7	35.0	0.0442	0.0	21.2	0.07	3.00E-4
0.17614	553.4	183.1	40.0	0.0641	0.0	21.2	0.07	3.00E-4
0.17611	553.3	184.5	45.0	0.0839	0.0	21.2	0.07	3.00E-4
0.17607	553.2	185.9	50.0	0.104	0.0	21.2	0.07	3.00E-4
0.17602	553.1	187.3	55.0	0.124	0.0	21.2	0.07	3.00E-4
0.17597	553.0	188.7	60.0	0.143	0.0	21.2	0.07	3.00E-4
0.17591	553.0	190.1	65.0	0.163	0.0	21.2	0.07	3.00E-4
0.17585	552.9	191.4	70.0	0.183	0.0	21.2	0.07	3.00E-4
0.17578	552.9	192.8	75.0	0.203	0.0	21.2	0.07	3.00E-4
0.17571	552.9	194.1	80.0	0.223	0.0	21.2	0.07	3.00E-4
0.17564	552.8	195.4	85.0	0.243	0.0	21.2	0.07	3.00E-4
0.17556	552.9	196.7	90.0	0.262	0.0	21.2	0.07	3.00E-4
0.17547	552.9	198.0	95.0	0.282	0.0	21.2	0.07	3.00E-4
0.17537	553.0	199.3	100.0	0.302	0.0	21.2	0.07	3.00E-4
0.17526	553.1	200.6	105.0	0.322	0.0	21.2	0.07	3.00E-4
0.17514	553.2	201.9	110.0	0.342	0.0	21.2	0.07	3.00E-4
0.175	553.4	203.2	115.0	0.362	0.0	21.2	0.07	3.00E-4
0.17484	553.7	204.5	120.0	0.382	0.0	21.2	0.07	3.00E-4
0.17467	554.0	205.7	125.0	0.401	0.0	21.2	0.07	3.00E-4
0.17449	554.3	207.0	130.0	0.421	0.0	21.2	0.07	3.00E-4
0.17428	554.8	208.2	135.0	0.441	0.0	21.2	0.07	3.00E-4
0.17406	555.2	209.5	140.0	0.461	0.0	21.2	0.07	3.00E-4
0.17382	555.8	210.7	145.0	0.481	0.0	21.2	0.07	3.00E-4
0.17356	556.4	211.9	150.0	0.501	0.0	21.2	0.07	3.00E-4
0.17329	557.0	213.1	155.0	0.52	0.0	21.2	0.07	3.00E-4
0.173	557.7	214.3	160.0	0.54	0.0	21.2	0.07	3.00E-4
0.1727	558.5	215.5	165.0	0.56	0.0	21.2	0.07	3.00E-4
0.17238	559.3	216.7	170.0	0.58	0.0	21.2	0.07	3.00E-4
0.17205	560.1	217.9	175.0	0.6	0.0	21.2	0.07	3.00E-4
0.17171	561.0	219.1	180.0	0.62	0.0	21.2	0.07	3.00E-4
0.17135	562.0	220.3	185.0	0.639	0.0	21.2	0.07	3.00E-4
0.17099	562.9	221.5	190.0	0.659	0.0	21.2	0.07	3.00E-4
0.17061	563.9	222.6	195.0	0.679	0.0	21.2	0.07	3.00E-4
0.17023	565.0	223.8	200.0	0.699	0.0	21.2	0.07	3.00E-4
0.16983	566.1	224.9	205.0	0.719	0.0	21.2	0.07	3.00E-4
0.16942	567.3	226.1	210.0	0.739	0.0	21.2	0.07	3.00E-4
0.169	568.4	227.2	215.0	0.759	0.0	21.2	0.07	3.00E-4
0.16858	569.6	228.4	220.0	0.778	0.0	21.2	0.07	3.00E-4
0.16815	570.9	229.5	225.0	0.798	0.0	21.2	0.07	3.00E-4
0.16771	572.1	230.6	230.0	0.818	0.0	21.2	0.07	3.00E-4
0.16727	573.4	231.7	235.0	0.838	0.0	21.2	0.07	3.00E-4
0.16681	574.8	232.8	240.0	0.858	0.0	21.2	0.07	3.00E-4
0.16634	576.2	233.9	245.0	0.878	0.0	21.2	0.07	3.00E-4
0.16588	577.6	235.0	250.0	0.897	0.0	21.2	0.07	3.00E-4
0.16542	579.0	236.1	255.0	0.917	0.0	21.2	0.07	3.00E-4
0.16495	580.4	237.2	260.0	0.937	0.0	21.2	0.07	3.00E-4
0.16447	581.8	238.3	265.0	0.957	0.0	21.2	0.07	3.00E-4
0.16399	583.3	239.4	270.0	0.977	0.0	21.2	0.07	3.00E-4
0.16351	584.8	240.5	275.0	0.997	0.0	21.2	0.07	3.00E-4
0.16304	586.3	241.6	280.0	1.016	0.0	21.2	0.07	3.00E-4
0.16256	587.8	242.6	285.0	1.036	0.0	21.2	0.07	3.00E-4
0.16208	589.3	243.7	290.0	1.056	0.0	21.2	0.07	3.00E-4
0.16159	590.9	244.7	295.0	1.076	0.0	21.2	0.07	3.00E-4
0.1611	592.4	245.8	300.0	1.096	0.0	21.2	0.07	3.00E-4
0.16061	594.0	246.8	305.0	1.116	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 18; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
m	Far-dir	m/s	Disprsn	deg	psu	C	kg/kg	s-1

Kailua_avg8.txt

m/s	deg	m ^{0.67} /s ²						
0.07	0.0	0.07	90.0	35.15	25.44	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.15	25.44	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.15	25.44	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.15	25.41	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.15	25.4	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.15	25.4	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.15	25.4	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.15	25.4	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.15	25.39	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.16	25.37	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.15	25.38	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.15	25.36	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.15	25.36	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.15	25.35	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.15	25.35	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.15	25.32	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.11	25.26	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.13	25.17	0.0	0.000312	
	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.129							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508	
80	105.0	0.07	21.03	20.51	4.792	-1.464	2.402	
100	104.4	0.07	28.32	13.8	7.111	-2.006	3.506	
120	103.5	0.07	37.02	9.289	10.56	-2.511	4.71	
140	102.2	0.07	47.59	6.251	15.67	-2.96	6.015	
160	100.6	0.07	60.7	4.207	23.28	-3.356	7.478	
180	98.49	0.07	77.12	2.831	34.58	-3.708	9.183	
200	95.92	0.07	97.79	1.905	51.38	-4.021	11.24	
220	92.8	0.07	123.9	1.282	76.34	-4.299	13.77	
221	92.62	0.07	125.4	1.257	77.87	-4.312	13.91	merging,
240	87.93	0.07	166.4	0.863	113.4	-4.608	17.78	
260	80.34	0.07	238.5	0.58	168.5	-4.937	23.93	
280	68.8	0.07	351.1	0.391	250.4	-5.276	33.07	
297	54.5	0.07	491.6	0.279	350.6	-5.568	44.29	axial vel
0.0221	max dilution reached							
300	51.41	0.07	521.7	0.263	372.1	-5.62	46.7	
320	26.04	0.07	804.8	0.177	552.9	-5.97	67.03	axial vel

Kailua_avg8.txt

0.0725
 323 21.28 0.07 858.1 0.167 586.8 -6.024 70.94; surface,
 Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 174.60
 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(l/y/hr)	(m/s) (m ^{0.67} /s ²)
0.16589	588.8	175.5	25.0	0.0131	0.0	21.2	0.07 3.00E-4
0.166	588.1	177.0	30.0	0.0329	0.0	21.2	0.07 3.00E-4
0.16602	587.8	178.4	35.0	0.0528	0.0	21.2	0.07 3.00E-4
0.16601	587.6	179.8	40.0	0.0726	0.0	21.2	0.07 3.00E-4
0.16597	587.5	181.2	45.0	0.0925	0.0	21.2	0.07 3.00E-4
0.16593	587.3	182.6	50.0	0.112	0.0	21.2	0.07 3.00E-4
0.16588	587.3	183.9	55.0	0.132	0.0	21.2	0.07 3.00E-4
0.16583	587.2	185.3	60.0	0.152	0.0	21.2	0.07 3.00E-4
0.16577	587.1	186.6	65.0	0.172	0.0	21.2	0.07 3.00E-4
0.16571	587.1	188.0	70.0	0.192	0.0	21.2	0.07 3.00E-4
0.16565	587.1	189.3	75.0	0.212	0.0	21.2	0.07 3.00E-4
0.16558	587.1	190.6	80.0	0.231	0.0	21.2	0.07 3.00E-4
0.1655	587.1	191.9	85.0	0.251	0.0	21.2	0.07 3.00E-4
0.16542	587.1	193.2	90.0	0.271	0.0	21.2	0.07 3.00E-4
0.16533	587.2	194.5	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.16523	587.3	195.8	100.0	0.311	0.0	21.2	0.07 3.00E-4
0.16512	587.4	197.1	105.0	0.331	0.0	21.2	0.07 3.00E-4
0.16499	587.6	198.4	110.0	0.35	0.0	21.2	0.07 3.00E-4
0.16485	587.9	199.6	115.0	0.37	0.0	21.2	0.07 3.00E-4
0.1647	588.2	200.9	120.0	0.39	0.0	21.2	0.07 3.00E-4
0.16452	588.5	202.1	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.16433	589.0	203.4	130.0	0.43	0.0	21.2	0.07 3.00E-4
0.16413	589.5	204.6	135.0	0.45	0.0	21.2	0.07 3.00E-4
0.1639	590.0	205.8	140.0	0.469	0.0	21.2	0.07 3.00E-4
0.16365	590.7	207.0	145.0	0.489	0.0	21.2	0.07 3.00E-4
0.1634	591.4	208.2	150.0	0.509	0.0	21.2	0.07 3.00E-4
0.16312	592.1	209.4	155.0	0.529	0.0	21.2	0.07 3.00E-4
0.16284	592.9	210.6	160.0	0.549	0.0	21.2	0.07 3.00E-4
0.16254	593.8	211.8	165.0	0.569	0.0	21.2	0.07 3.00E-4
0.16223	594.7	213.0	170.0	0.588	0.0	21.2	0.07 3.00E-4
0.1619	595.6	214.2	175.0	0.608	0.0	21.2	0.07 3.00E-4
0.16157	596.6	215.3	180.0	0.628	0.0	21.2	0.07 3.00E-4
0.16122	597.7	216.5	185.0	0.648	0.0	21.2	0.07 3.00E-4
0.16086	598.8	217.7	190.0	0.668	0.0	21.2	0.07 3.00E-4
0.16049	599.9	218.8	195.0	0.688	0.0	21.2	0.07 3.00E-4
0.16011	601.1	220.0	200.0	0.708	0.0	21.2	0.07 3.00E-4
0.15972	602.3	221.1	205.0	0.727	0.0	21.2	0.07 3.00E-4
0.15932	603.6	222.2	210.0	0.747	0.0	21.2	0.07 3.00E-4
0.15892	604.9	223.4	215.0	0.767	0.0	21.2	0.07 3.00E-4
0.15851	606.2	224.5	220.0	0.787	0.0	21.2	0.07 3.00E-4
0.15809	607.6	225.6	225.0	0.807	0.0	21.2	0.07 3.00E-4
0.15766	609.0	226.7	230.0	0.827	0.0	21.2	0.07 3.00E-4
0.15723	610.4	227.8	235.0	0.846	0.0	21.2	0.07 3.00E-4
0.15678	612.0	228.9	240.0	0.866	0.0	21.2	0.07 3.00E-4
0.15634	613.4	230.0	245.0	0.886	0.0	21.2	0.07 3.00E-4
0.1559	615.0	231.1	250.0	0.906	0.0	21.2	0.07 3.00E-4
0.15545	616.5	232.2	255.0	0.926	0.0	21.2	0.07 3.00E-4
0.15499	618.1	233.2	260.0	0.946	0.0	21.2	0.07 3.00E-4
0.15454	619.6	234.3	265.0	0.965	0.0	21.2	0.07 3.00E-4
0.15408	621.3	235.4	270.0	0.985	0.0	21.2	0.07 3.00E-4
0.15363	622.8	236.5	275.0	1.005	0.0	21.2	0.07 3.00E-4
0.15317	624.5	237.5	280.0	1.025	0.0	21.2	0.07 3.00E-4
0.1527	626.1	238.6	285.0	1.045	0.0	21.2	0.07 3.00E-4
0.15224	627.8	239.6	290.0	1.065	0.0	21.2	0.07 3.00E-4
0.15177	629.5	240.7	295.0	1.085	0.0	21.2	0.07 3.00E-4
0.1513	631.2	241.7	300.0	1.104	0.0	21.2	0.07 3.00E-4
0.15083	632.9	242.7	305.0	1.124	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt

count: 57

/ Windows UM3.

Case 19; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	solar	rad
Far-spd	Far-dir	Disprsn						
m/s	m/s	m0.67/s2	deg	psu	c	kg/kg		s-1
0.07	0.0	0.07	90.0	35.15	25.44	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.15	25.44	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.15	25.44	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.15	25.41	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.15	25.4	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.15	25.4	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.15	25.4	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.15	25.4	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.15	25.39	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.16	25.37	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.15	25.38	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.15	25.36	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.15	25.36	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.15	25.35	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.15	25.35	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.15	25.32	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.11	25.26	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.13	25.17	0.0	0.000312	
	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							

Froude number: 6.129

Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	()	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508
80	105.0	0.07	21.03	20.51	4.792	-1.464	2.402
100	104.4	0.07	28.32	13.8	7.111	-2.006	3.506
120	103.5	0.07	37.02	9.289	10.56	-2.511	4.71
140	102.2	0.07	47.59	6.251	15.67	-2.96	6.015
160	100.6	0.07	60.7	4.207	23.28	-3.356	7.478
180	98.49	0.07	77.12	2.831	34.58	-3.708	9.183
200	95.92	0.07	97.79	1.905	51.38	-4.021	11.24
220	92.8	0.07	123.9	1.282	76.34	-4.299	13.77
221	92.62	0.07	125.4	1.257	77.87	-4.312	13.91

Kailua_avg8.txt
 240 87.93 0.07 166.4 0.863 113.4 -4.608 17.78;
 260 80.34 0.07 238.5 0.58 168.5 -4.937 23.93;
 280 68.8 0.07 351.1 0.391 250.4 -5.276 33.07;
 297 54.5 0.07 491.6 0.279 350.6 -5.568 44.29; axial vel
 0.0221 max dilution reached
 300 51.41 0.07 521.7 0.263 372.1 -5.62 46.7;
 320 26.04 0.07 804.8 0.177 552.9 -5.97 67.03; axial vel
 0.0725
 323 21.28 0.07 858.1 0.167 586.8 -6.024 70.94; surface,
 Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 174.60
 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m0.67/s2)
0.16589	588.8	175.5	25.0	0.0131	0.0	21.2	0.07 3.00E-4
0.166	588.1	177.0	30.0	0.0329	0.0	21.2	0.07 3.00E-4
0.16602	587.8	178.4	35.0	0.0528	0.0	21.2	0.07 3.00E-4
0.16601	587.6	179.8	40.0	0.0726	0.0	21.2	0.07 3.00E-4
0.16597	587.5	181.2	45.0	0.0925	0.0	21.2	0.07 3.00E-4
0.16593	587.3	182.6	50.0	0.112	0.0	21.2	0.07 3.00E-4
0.16588	587.3	183.9	55.0	0.132	0.0	21.2	0.07 3.00E-4
0.16583	587.2	185.3	60.0	0.152	0.0	21.2	0.07 3.00E-4
0.16577	587.1	186.6	65.0	0.172	0.0	21.2	0.07 3.00E-4
0.16571	587.1	188.0	70.0	0.192	0.0	21.2	0.07 3.00E-4
0.16565	587.1	189.3	75.0	0.212	0.0	21.2	0.07 3.00E-4
0.16558	587.1	190.6	80.0	0.231	0.0	21.2	0.07 3.00E-4
0.1655	587.1	191.9	85.0	0.251	0.0	21.2	0.07 3.00E-4
0.16542	587.1	193.2	90.0	0.271	0.0	21.2	0.07 3.00E-4
0.16533	587.2	194.5	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.16523	587.3	195.8	100.0	0.311	0.0	21.2	0.07 3.00E-4
0.16512	587.4	197.1	105.0	0.331	0.0	21.2	0.07 3.00E-4
0.16499	587.6	198.4	110.0	0.35	0.0	21.2	0.07 3.00E-4
0.16485	587.9	199.6	115.0	0.37	0.0	21.2	0.07 3.00E-4
0.1647	588.2	200.9	120.0	0.39	0.0	21.2	0.07 3.00E-4
0.16452	588.5	202.1	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.16433	589.0	203.4	130.0	0.43	0.0	21.2	0.07 3.00E-4
0.16413	589.5	204.6	135.0	0.45	0.0	21.2	0.07 3.00E-4
0.1639	590.0	205.8	140.0	0.469	0.0	21.2	0.07 3.00E-4
0.16365	590.7	207.0	145.0	0.489	0.0	21.2	0.07 3.00E-4
0.1634	591.4	208.2	150.0	0.509	0.0	21.2	0.07 3.00E-4
0.16312	592.1	209.4	155.0	0.529	0.0	21.2	0.07 3.00E-4
0.16284	592.9	210.6	160.0	0.549	0.0	21.2	0.07 3.00E-4
0.16254	593.8	211.8	165.0	0.569	0.0	21.2	0.07 3.00E-4
0.16223	594.7	213.0	170.0	0.588	0.0	21.2	0.07 3.00E-4
0.1619	595.6	214.2	175.0	0.608	0.0	21.2	0.07 3.00E-4
0.16157	596.6	215.3	180.0	0.628	0.0	21.2	0.07 3.00E-4
0.16122	597.7	216.5	185.0	0.648	0.0	21.2	0.07 3.00E-4
0.16086	598.8	217.7	190.0	0.668	0.0	21.2	0.07 3.00E-4
0.16049	599.9	218.8	195.0	0.688	0.0	21.2	0.07 3.00E-4
0.16011	601.1	220.0	200.0	0.708	0.0	21.2	0.07 3.00E-4
0.15972	602.3	221.1	205.0	0.727	0.0	21.2	0.07 3.00E-4
0.15932	603.6	222.2	210.0	0.747	0.0	21.2	0.07 3.00E-4
0.15892	604.9	223.4	215.0	0.767	0.0	21.2	0.07 3.00E-4
0.15851	606.2	224.5	220.0	0.787	0.0	21.2	0.07 3.00E-4
0.15809	607.6	225.6	225.0	0.807	0.0	21.2	0.07 3.00E-4
0.15766	609.0	226.7	230.0	0.827	0.0	21.2	0.07 3.00E-4
0.15723	610.4	227.8	235.0	0.846	0.0	21.2	0.07 3.00E-4
0.15678	612.0	228.9	240.0	0.866	0.0	21.2	0.07 3.00E-4
0.15634	613.4	230.0	245.0	0.886	0.0	21.2	0.07 3.00E-4
0.1559	615.0	231.1	250.0	0.906	0.0	21.2	0.07 3.00E-4
0.15545	616.5	232.2	255.0	0.926	0.0	21.2	0.07 3.00E-4
0.15499	618.1	233.2	260.0	0.946	0.0	21.2	0.07 3.00E-4
0.15454	619.6	234.3	265.0	0.965	0.0	21.2	0.07 3.00E-4
0.15408	621.3	235.4	270.0	0.985	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt							
0.15363	622.8	236.5	275.0	1.005	0.0	21.2	0.07 3.00E-4
0.15317	624.5	237.5	280.0	1.025	0.0	21.2	0.07 3.00E-4
0.1527	626.1	238.6	285.0	1.045	0.0	21.2	0.07 3.00E-4
0.15224	627.8	239.6	290.0	1.065	0.0	21.2	0.07 3.00E-4
0.15177	629.5	240.7	295.0	1.085	0.0	21.2	0.07 3.00E-4
0.1513	631.2	241.7	300.0	1.104	0.0	21.2	0.07 3.00E-4
0.15083	632.9	242.7	305.0	1.124	0.0	21.2	0.07 3.00E-4

count: 57

/ Windows UM3.

Case 20; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn 0.67/s ²	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	0.07	90.0	0.0003	35.15	25.44	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.15	25.44	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.15	25.44	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.15	25.41	0.0	0.000312
0.07	8.0	0.07	90.0	0.0003	35.15	25.4	0.0	0.000312
0.07	10.0	0.07	90.0	0.0003	35.15	25.4	0.0	0.000312
0.07	12.0	0.07	90.0	0.0003	35.15	25.4	0.0	0.000312
0.07	14.0	0.07	90.0	0.0003	35.15	25.4	0.0	0.000312
0.07	16.0	0.07	90.0	0.0003	35.15	25.39	0.0	0.000312
0.07	18.0	0.07	90.0	0.0003	35.16	25.37	0.0	0.000312
0.07	20.0	0.07	90.0	0.0003	35.15	25.38	0.0	0.000312
0.07	22.0	0.07	90.0	0.0003	35.15	25.36	0.0	0.000312
0.07	24.0	0.07	90.0	0.0003	35.15	25.36	0.0	0.000312
0.07	26.0	0.07	90.0	0.0003	35.15	25.35	0.0	0.000312
0.07	28.0	0.07	90.0	0.0003	35.15	25.35	0.0	0.000312
0.07	30.0	0.07	90.0	0.0003	35.15	25.32	0.0	0.000312
0.07	32.0	0.07	90.0	0.0003	35.11	25.26	0.0	0.000312
0.07	33.0	0.07	90.0	0.0003	35.13	25.17	0.0	0.000312
0.07	34.0	0.07	90.0	0.0003				
	Ttl-flo (MGD)	Temp (C)						
	15.25	28.04						

Froude number: 6.129

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508
80	105.0	0.07	21.03	20.51	4.792	-1.464	2.402
100	104.4	0.07	28.32	13.8	7.111	-2.006	3.506

Kailua_avg8.txt							
120	103.5	0.07	37.02	9.289	10.56	-2.511	4.71;
140	102.2	0.07	47.59	6.251	15.67	-2.96	6.015;
160	100.6	0.07	60.7	4.207	23.28	-3.356	7.478;
180	98.49	0.07	77.12	2.831	34.58	-3.708	9.183;
200	95.92	0.07	97.79	1.905	51.38	-4.021	11.24;
220	92.8	0.07	123.9	1.282	76.34	-4.299	13.77;
221	92.62	0.07	125.4	1.257	77.87	-4.312	13.91; merging,
240	87.93	0.07	166.4	0.863	113.4	-4.608	17.78;
260	80.34	0.07	238.5	0.58	168.5	-4.937	23.93;
280	68.8	0.07	351.1	0.391	250.4	-5.276	33.07;
297	54.5	0.07	491.6	0.279	350.6	-5.568	44.29; axial vel
0.0221 max dilution reached							
300	51.41	0.07	521.7	0.263	372.1	-5.62	46.7;
320	26.04	0.07	804.8	0.177	552.9	-5.97	67.03; axial vel
0.0725	323	21.28	0.07	858.1	0.167	586.8	-6.024 70.94; surface,
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 174.60 m							
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m0.67/s2)
(ppm)		(m)	(m)	(hrs)			
0.16589	588.8	175.5	25.0	0.0131	0.0	21.2	0.07 3.00E-4
0.166	588.1	177.0	30.0	0.0329	0.0	21.2	0.07 3.00E-4
0.16602	587.8	178.4	35.0	0.0528	0.0	21.2	0.07 3.00E-4
0.16601	587.6	179.8	40.0	0.0726	0.0	21.2	0.07 3.00E-4
0.16597	587.5	181.2	45.0	0.0925	0.0	21.2	0.07 3.00E-4
0.16593	587.3	182.6	50.0	0.112	0.0	21.2	0.07 3.00E-4
0.16588	587.3	183.9	55.0	0.132	0.0	21.2	0.07 3.00E-4
0.16583	587.2	185.3	60.0	0.152	0.0	21.2	0.07 3.00E-4
0.16577	587.1	186.6	65.0	0.172	0.0	21.2	0.07 3.00E-4
0.16571	587.1	188.0	70.0	0.192	0.0	21.2	0.07 3.00E-4
0.16565	587.1	189.3	75.0	0.212	0.0	21.2	0.07 3.00E-4
0.16558	587.1	190.6	80.0	0.231	0.0	21.2	0.07 3.00E-4
0.1655	587.1	191.9	85.0	0.251	0.0	21.2	0.07 3.00E-4
0.16542	587.1	193.2	90.0	0.271	0.0	21.2	0.07 3.00E-4
0.16533	587.2	194.5	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.16523	587.3	195.8	100.0	0.311	0.0	21.2	0.07 3.00E-4
0.16512	587.4	197.1	105.0	0.331	0.0	21.2	0.07 3.00E-4
0.16499	587.6	198.4	110.0	0.35	0.0	21.2	0.07 3.00E-4
0.16485	587.9	199.6	115.0	0.37	0.0	21.2	0.07 3.00E-4
0.1647	588.2	200.9	120.0	0.39	0.0	21.2	0.07 3.00E-4
0.16452	588.5	202.1	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.16433	589.0	203.4	130.0	0.43	0.0	21.2	0.07 3.00E-4
0.16413	589.5	204.6	135.0	0.45	0.0	21.2	0.07 3.00E-4
0.1639	590.0	205.8	140.0	0.469	0.0	21.2	0.07 3.00E-4
0.16365	590.7	207.0	145.0	0.489	0.0	21.2	0.07 3.00E-4
0.1634	591.4	208.2	150.0	0.509	0.0	21.2	0.07 3.00E-4
0.16312	592.1	209.4	155.0	0.529	0.0	21.2	0.07 3.00E-4
0.16284	592.9	210.6	160.0	0.549	0.0	21.2	0.07 3.00E-4
0.16254	593.8	211.8	165.0	0.569	0.0	21.2	0.07 3.00E-4
0.16223	594.7	213.0	170.0	0.588	0.0	21.2	0.07 3.00E-4
0.1619	595.6	214.2	175.0	0.608	0.0	21.2	0.07 3.00E-4
0.16157	596.6	215.3	180.0	0.628	0.0	21.2	0.07 3.00E-4
0.16122	597.7	216.5	185.0	0.648	0.0	21.2	0.07 3.00E-4
0.16086	598.8	217.7	190.0	0.668	0.0	21.2	0.07 3.00E-4
0.16049	599.9	218.8	195.0	0.688	0.0	21.2	0.07 3.00E-4
0.16011	601.1	220.0	200.0	0.708	0.0	21.2	0.07 3.00E-4
0.15972	602.3	221.1	205.0	0.727	0.0	21.2	0.07 3.00E-4
0.15932	603.6	222.2	210.0	0.747	0.0	21.2	0.07 3.00E-4
0.15892	604.9	223.4	215.0	0.767	0.0	21.2	0.07 3.00E-4
0.15851	606.2	224.5	220.0	0.787	0.0	21.2	0.07 3.00E-4
0.15809	607.6	225.6	225.0	0.807	0.0	21.2	0.07 3.00E-4
0.15766	609.0	226.7	230.0	0.827	0.0	21.2	0.07 3.00E-4
0.15723	610.4	227.8	235.0	0.846	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt							
0.15678	612.0	228.9	240.0	0.866	0.0	21.2	0.07 3.00E-4
0.15634	613.4	230.0	245.0	0.886	0.0	21.2	0.07 3.00E-4
0.1559	615.0	231.1	250.0	0.906	0.0	21.2	0.07 3.00E-4
0.15545	616.5	232.2	255.0	0.926	0.0	21.2	0.07 3.00E-4
0.15499	618.1	233.2	260.0	0.946	0.0	21.2	0.07 3.00E-4
0.15454	619.6	234.3	265.0	0.965	0.0	21.2	0.07 3.00E-4
0.15408	621.3	235.4	270.0	0.985	0.0	21.2	0.07 3.00E-4
0.15363	622.8	236.5	275.0	1.005	0.0	21.2	0.07 3.00E-4
0.15317	624.5	237.5	280.0	1.025	0.0	21.2	0.07 3.00E-4
0.1527	626.1	238.6	285.0	1.045	0.0	21.2	0.07 3.00E-4
0.15224	627.8	239.6	290.0	1.065	0.0	21.2	0.07 3.00E-4
0.15177	629.5	240.7	295.0	1.085	0.0	21.2	0.07 3.00E-4
0.1513	631.2	241.7	300.0	1.104	0.0	21.2	0.07 3.00E-4
0.15083	632.9	242.7	305.0	1.124	0.0	21.2	0.07 3.00E-4

count: 57

/ Windows UM3.

Case 21; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg	Amb-dir Disprsn m/s 0.67/s2	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad
							s-1
0.07	0.0	90.0	0.07 0.0003	35.19	26.41	0.0	0.000312
0.07	2.0	90.0	0.07 0.0003	35.19	26.42	0.0	0.000312
0.07	4.0	90.0	0.07 0.0003	35.18	26.42	0.0	0.000312
0.07	6.0	90.0	0.07 0.0003	35.18	26.42	0.0	0.000312
0.07	8.0	90.0	0.07 0.0003	35.18	26.42	0.0	0.000312
0.07	10.0	90.0	0.07 0.0003	35.19	26.41	0.0	0.000312
0.07	12.0	90.0	0.07 0.0003	35.18	26.41	0.0	0.000312
0.07	14.0	90.0	0.07 0.0003	35.19	26.41	0.0	0.000312
0.07	16.0	90.0	0.07 0.0003	35.12	26.37	0.0	0.000312
0.07	18.0	90.0	0.07 0.0003	35.16	26.16	0.0	0.000312
0.07	20.0	90.0	0.07 0.0003	35.15	26.07	0.0	0.000312
0.07	22.0	90.0	0.07 0.0003	35.21	25.96	0.0	0.000312
0.07	24.0	90.0	0.07 0.0003	35.19	25.94	0.0	0.000312
0.07	26.0	90.0	0.07 0.0003	35.21	25.88	0.0	0.000312
0.07	28.0	90.0	0.07 0.0003	35.21	25.87	0.0	0.000312
0.07	30.0	90.0	0.07 0.0003	35.21	25.86	0.0	0.000312
0.07	32.0	90.0	0.07 0.0003	35.21	25.85	0.0	0.000312
0.07	33.0	90.0	0.07 0.0003	35.21	25.85	0.0	0.000312
0.07	90.0						
	Ttl-flo (MGD)	Temp (C)					
	15.25	28.04					

Froude number: 6.145

Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
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Kailua_avg8.txt							
Step	(ft)	(m/s)	(in)	(ppm)	(°)	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403;
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508;
120	103.5	0.07	37.05	9.289	10.56	-2.513	4.714;
140	102.2	0.07	47.64	6.251	15.68	-2.962	6.021;
160	100.6	0.07	60.78	4.207	23.28	-3.36	7.487;
180	98.51	0.07	77.27	2.831	34.59	-3.713	9.197;
200	95.95	0.07	98.03	1.905	51.39	-4.027	11.26;
220	92.84	0.07	124.2	1.282	76.35	-4.306	13.8;
221	92.66	0.07	125.7	1.257	77.87	-4.319	13.94; merging,
240	87.97	0.07	166.8	0.863	113.4	-4.616	17.84;
260	80.41	0.07	240.5	0.58	168.6	-4.947	24.0;
280	69.25	0.07	366.6	0.391	250.5	-5.293	33.37; axial vel
0.0124							
286	65.14	0.07	426.2	0.347	282.1	-5.399	37.03; trap level,
300	58.47	0.07	607.6	0.282	347.1	-5.577	44.18; max dilution
reached							
303	57.46	0.07	645.4	0.273	358.7	-5.606	45.48; begin overlap,
320	54.23	0.07	788.4	0.253	386.2	-5.713	50.59;
340	52.69	0.07	877.4	0.248	394.4	-5.793	54.5;
360	52.16	0.07	918.4	0.246	397.0	-5.856	57.68;
367	52.13	0.07	922.6	0.246	397.2	-5.878	58.77; local maximum
rise or fall,							
Const Eddy Diffusivity.							
m							
conc	dilutn	width	distnce	time			
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.24504	398.9	176.8	20.0	0.00792	0.0	21.2	0.07 3.00E-4
0.2453	398.3	178.2	25.0	0.0278	0.0	21.2	0.07 3.00E-4
0.24535	398.0	179.7	30.0	0.0476	0.0	21.2	0.07 3.00E-4
0.24533	397.8	181.1	35.0	0.0674	0.0	21.2	0.07 3.00E-4
0.24529	397.7	182.5	40.0	0.0873	0.0	21.2	0.07 3.00E-4
0.24523	397.7	183.9	45.0	0.107	0.0	21.2	0.07 3.00E-4
0.24516	397.6	185.2	50.0	0.127	0.0	21.2	0.07 3.00E-4
0.24508	397.6	186.6	55.0	0.147	0.0	21.2	0.07 3.00E-4
0.245	397.5	188.0	60.0	0.167	0.0	21.2	0.07 3.00E-4
0.24491	397.5	189.3	65.0	0.186	0.0	21.2	0.07 3.00E-4
0.24482	397.5	190.6	70.0	0.206	0.0	21.2	0.07 3.00E-4
0.24472	397.4	192.0	75.0	0.226	0.0	21.2	0.07 3.00E-4
0.24462	397.4	193.3	80.0	0.246	0.0	21.2	0.07 3.00E-4
0.24445	397.5	194.6	85.0	0.266	0.0	21.2	0.07 3.00E-4
0.24437	397.5	195.9	90.0	0.286	0.0	21.2	0.07 3.00E-4
0.24423	397.6	197.2	95.0	0.306	0.0	21.2	0.07 3.00E-4
0.24407	397.6	198.5	100.0	0.325	0.0	21.2	0.07 3.00E-4
0.24389	397.8	199.8	105.0	0.345	0.0	21.2	0.07 3.00E-4
0.24369	397.9	201.0	110.0	0.365	0.0	21.2	0.07 3.00E-4
0.24347	398.1	202.3	115.0	0.385	0.0	21.2	0.07 3.00E-4
0.24322	398.3	203.5	120.0	0.405	0.0	21.2	0.07 3.00E-4
0.24295	398.6	204.8	125.0	0.425	0.0	21.2	0.07 3.00E-4
0.24266	398.9	206.0	130.0	0.444	0.0	21.2	0.07 3.00E-4
0.24234	399.3	207.2	135.0	0.464	0.0	21.2	0.07 3.00E-4
0.24198	399.7	208.5	140.0	0.484	0.0	21.2	0.07 3.00E-4
0.24161	400.2	209.7	145.0	0.504	0.0	21.2	0.07 3.00E-4
0.24122	400.6	210.9	150.0	0.524	0.0	21.2	0.07 3.00E-4
0.24081	401.2	212.1	155.0	0.544	0.0	21.2	0.07 3.00E-4
0.24038	401.7	213.3	160.0	0.563	0.0	21.2	0.07 3.00E-4
0.23993	402.3	214.5	165.0	0.583	0.0	21.2	0.07 3.00E-4
0.23946	402.9	215.7	170.0	0.603	0.0	21.2	0.07 3.00E-4
0.23897	403.6	216.8	175.0	0.623	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt								
0.23847	404.3	218.0	180.0	0.643	0.0	21.2	0.07	3.00E-4
0.23794	405.0	219.2	185.0	0.663	0.0	21.2	0.07	3.00E-4
0.23741	405.8	220.3	190.0	0.683	0.0	21.2	0.07	3.00E-4
0.23686	406.6	221.5	195.0	0.702	0.0	21.2	0.07	3.00E-4
0.2363	407.4	222.6	200.0	0.722	0.0	21.2	0.07	3.00E-4
0.23571	408.2	223.8	205.0	0.742	0.0	21.2	0.07	3.00E-4
0.23513	409.1	224.9	210.0	0.762	0.0	21.2	0.07	3.00E-4
0.23453	410.0	226.0	215.0	0.782	0.0	21.2	0.07	3.00E-4
0.23392	410.9	227.1	220.0	0.802	0.0	21.2	0.07	3.00E-4
0.2333	411.8	228.3	225.0	0.821	0.0	21.2	0.07	3.00E-4
0.23267	412.8	229.4	230.0	0.841	0.0	21.2	0.07	3.00E-4
0.23203	413.7	230.5	235.0	0.861	0.0	21.2	0.07	3.00E-4
0.23136	414.8	231.6	240.0	0.881	0.0	21.2	0.07	3.00E-4
0.23071	415.8	232.7	245.0	0.901	0.0	21.2	0.07	3.00E-4
0.23006	416.8	233.7	250.0	0.921	0.0	21.2	0.07	3.00E-4
0.22939	417.8	234.8	255.0	0.94	0.0	21.2	0.07	3.00E-4
0.22872	418.9	235.9	260.0	0.96	0.0	21.2	0.07	3.00E-4
0.22805	420.0	237.0	265.0	0.98	0.0	21.2	0.07	3.00E-4
0.22739	421.0	238.1	270.0	1.0	0.0	21.2	0.07	3.00E-4
0.22671	422.1	239.1	275.0	1.02	0.0	21.2	0.07	3.00E-4
0.22603	423.2	240.2	280.0	1.04	0.0	21.2	0.07	3.00E-4
0.22535	424.4	241.2	285.0	1.06	0.0	21.2	0.07	3.00E-4
0.22467	425.5	242.3	290.0	1.079	0.0	21.2	0.07	3.00E-4
0.22398	426.6	243.3	295.0	1.099	0.0	21.2	0.07	3.00E-4
0.22329	427.8	244.4	300.0	1.119	0.0	21.2	0.07	3.00E-4
0.2226	428.9	245.4	305.0	1.139	0.0	21.2	0.07	3.00E-4

count: 58

/ Windows UM3.

Case 22; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
		Far-dir deg	Disprsn m0.67/s2	deg	psu	C	kg/kg	s-1
0.07	0.0	0.0	0.07	90.0	35.19	26.41	0.0	0.000312
0.07	2.0	90.0	0.0003	0.07	90.0	35.19	26.42	0.0
0.07	4.0	90.0	0.0003	0.07	90.0	35.18	26.42	0.0
0.07	6.0	90.0	0.0003	0.07	90.0	35.18	26.42	0.0
0.07	8.0	90.0	0.0003	0.07	90.0	35.18	26.42	0.0
0.07	10.0	90.0	0.0003	0.07	90.0	35.19	26.41	0.0
0.07	12.0	90.0	0.0003	0.07	90.0	35.18	26.41	0.0
0.07	14.0	90.0	0.0003	0.07	90.0	35.19	26.41	0.0
0.07	16.0	90.0	0.0003	0.07	90.0	35.12	26.37	0.0
0.07	18.0	90.0	0.0003	0.07	90.0	35.16	26.16	0.0
0.07	20.0	90.0	0.0003	0.07	90.0	35.15	26.07	0.0
0.07	22.0	90.0	0.0003	0.07	90.0	35.21	25.96	0.0
0.07	24.0	90.0	0.0003	0.07	90.0	35.19	25.94	0.0
0.07	26.0	90.0	0.0003	0.07	90.0	35.21	25.88	0.0
0.07	28.0	90.0	0.0003	0.07	90.0	35.21	25.87	0.0

Kailua_avg8.txt

0.07	90.0	0.0003						
	30.0	0.07	90.0	35.21	25.86	0.0	0.000312	
0.07	90.0	0.0003						
	32.0	0.07	90.0	35.21	25.85	0.0	0.000312	
0.07	90.0	0.0003						
	33.0	0.07	90.0	35.21	25.85	0.0	0.000312	
0.07	90.0	0.0003						

Ttl-flo Temp
(MGD) (C)
15.25 28.04

Froude number: 6.145

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403;
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508;
120	103.5	0.07	37.05	9.289	10.56	-2.513	4.714;
140	102.2	0.07	47.64	6.251	15.68	-2.962	6.021;
160	100.6	0.07	60.78	4.207	23.28	-3.36	7.487;
180	98.51	0.07	77.27	2.831	34.59	-3.713	9.197;
200	95.95	0.07	98.03	1.905	51.39	-4.027	11.26;
220	92.84	0.07	124.2	1.282	76.35	-4.306	13.8;
221	92.66	0.07	125.7	1.257	77.87	-4.319	13.94; merging,
240	87.97	0.07	166.8	0.863	113.4	-4.616	17.84;
260	80.41	0.07	240.5	0.58	168.6	-4.947	24.0;
280	69.25	0.07	366.6	0.391	250.5	-5.293	33.37; axial vel
0.0124							
286	65.14	0.07	426.2	0.347	282.1	-5.399	37.03; trap level,
300	58.47	0.07	607.6	0.282	347.1	-5.577	44.18; max dilution
reached							
303	57.46	0.07	645.4	0.273	358.7	-5.606	45.48; begin overlap,
320	54.23	0.07	788.4	0.253	386.2	-5.713	50.59;
340	52.69	0.07	877.4	0.248	394.4	-5.793	54.5;
360	52.16	0.07	918.4	0.246	397.0	-5.856	57.68;
367	52.13	0.07	922.6	0.246	397.2	-5.878	58.77; local maximum

rise or fall, Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 176.24 m

conc (ppm)	dilutn (%)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)	(m ^{0.67} /s ²)
0.244504	398.9	176.8	20.0	0.00792	0.0	21.2	0.07	3.00E-4
0.24453	398.3	178.2	25.0	0.0278	0.0	21.2	0.07	3.00E-4
0.244535	398.0	179.7	30.0	0.0476	0.0	21.2	0.07	3.00E-4
0.244533	397.8	181.1	35.0	0.0674	0.0	21.2	0.07	3.00E-4
0.244529	397.7	182.5	40.0	0.0873	0.0	21.2	0.07	3.00E-4
0.244523	397.7	183.9	45.0	0.107	0.0	21.2	0.07	3.00E-4
0.244516	397.6	185.2	50.0	0.127	0.0	21.2	0.07	3.00E-4
0.244508	397.6	186.6	55.0	0.147	0.0	21.2	0.07	3.00E-4
0.2445	397.5	188.0	60.0	0.167	0.0	21.2	0.07	3.00E-4
0.244491	397.5	189.3	65.0	0.186	0.0	21.2	0.07	3.00E-4
0.244482	397.5	190.6	70.0	0.206	0.0	21.2	0.07	3.00E-4
0.244472	397.4	192.0	75.0	0.226	0.0	21.2	0.07	3.00E-4
0.244462	397.4	193.3	80.0	0.246	0.0	21.2	0.07	3.00E-4
0.24445	397.5	194.6	85.0	0.266	0.0	21.2	0.07	3.00E-4
0.244437	397.5	195.9	90.0	0.286	0.0	21.2	0.07	3.00E-4
0.244423	397.6	197.2	95.0	0.306	0.0	21.2	0.07	3.00E-4
0.244407	397.6	198.5	100.0	0.325	0.0	21.2	0.07	3.00E-4
0.24389	397.8	199.8	105.0	0.345	0.0	21.2	0.07	3.00E-4
0.24369	397.9	201.0	110.0	0.365	0.0	21.2	0.07	3.00E-4
0.24347	398.1	202.3	115.0	0.385	0.0	21.2	0.07	3.00E-4

Kailua_avg8.txt

0.24322	398.3	203.5	120.0	0.405	0.0	21.2	0.07	3.00E-4
0.24295	398.6	204.8	125.0	0.425	0.0	21.2	0.07	3.00E-4
0.24266	398.9	206.0	130.0	0.444	0.0	21.2	0.07	3.00E-4
0.24234	399.3	207.2	135.0	0.464	0.0	21.2	0.07	3.00E-4
0.24198	399.7	208.5	140.0	0.484	0.0	21.2	0.07	3.00E-4
0.24161	400.2	209.7	145.0	0.504	0.0	21.2	0.07	3.00E-4
0.24122	400.6	210.9	150.0	0.524	0.0	21.2	0.07	3.00E-4
0.24081	401.2	212.1	155.0	0.544	0.0	21.2	0.07	3.00E-4
0.24038	401.7	213.3	160.0	0.563	0.0	21.2	0.07	3.00E-4
0.23993	402.3	214.5	165.0	0.583	0.0	21.2	0.07	3.00E-4
0.23946	402.9	215.7	170.0	0.603	0.0	21.2	0.07	3.00E-4
0.23897	403.6	216.8	175.0	0.623	0.0	21.2	0.07	3.00E-4
0.23847	404.3	218.0	180.0	0.643	0.0	21.2	0.07	3.00E-4
0.23794	405.0	219.2	185.0	0.663	0.0	21.2	0.07	3.00E-4
0.23741	405.8	220.3	190.0	0.683	0.0	21.2	0.07	3.00E-4
0.23686	406.6	221.5	195.0	0.702	0.0	21.2	0.07	3.00E-4
0.2363	407.4	222.6	200.0	0.722	0.0	21.2	0.07	3.00E-4
0.23571	408.2	223.8	205.0	0.742	0.0	21.2	0.07	3.00E-4
0.23513	409.1	224.9	210.0	0.762	0.0	21.2	0.07	3.00E-4
0.23453	410.0	226.0	215.0	0.782	0.0	21.2	0.07	3.00E-4
0.23392	410.9	227.1	220.0	0.802	0.0	21.2	0.07	3.00E-4
0.2333	411.8	228.3	225.0	0.821	0.0	21.2	0.07	3.00E-4
0.23267	412.8	229.4	230.0	0.841	0.0	21.2	0.07	3.00E-4
0.23203	413.7	230.5	235.0	0.861	0.0	21.2	0.07	3.00E-4
0.23136	414.8	231.6	240.0	0.881	0.0	21.2	0.07	3.00E-4
0.23071	415.8	232.7	245.0	0.901	0.0	21.2	0.07	3.00E-4
0.23006	416.8	233.7	250.0	0.921	0.0	21.2	0.07	3.00E-4
0.22939	417.8	234.8	255.0	0.94	0.0	21.2	0.07	3.00E-4
0.22872	418.9	235.9	260.0	0.96	0.0	21.2	0.07	3.00E-4
0.22805	420.0	237.0	265.0	0.98	0.0	21.2	0.07	3.00E-4
0.22739	421.0	238.1	270.0	1.0	0.0	21.2	0.07	3.00E-4
0.22671	422.1	239.1	275.0	1.02	0.0	21.2	0.07	3.00E-4
0.22603	423.2	240.2	280.0	1.04	0.0	21.2	0.07	3.00E-4
0.22535	424.4	241.2	285.0	1.06	0.0	21.2	0.07	3.00E-4
0.22467	425.5	242.3	290.0	1.079	0.0	21.2	0.07	3.00E-4
0.22398	426.6	243.3	295.0	1.099	0.0	21.2	0.07	3.00E-4
0.22329	427.8	244.4	300.0	1.119	0.0	21.2	0.07	3.00E-4
0.2226	428.9	245.4	305.0	1.139	0.0	21.2	0.07	3.00E-4

count: 58

/ Windows UM3.

Case 23; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur m/s	Amb-dir deg	Disprsn m0.67/s2	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	0.07	90.0	0.0003	35.19	26.41	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.19	26.42	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.18	26.42	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.18	26.42	0.0	0.000312
0.07	8.0	0.07	90.0	0.0003	35.18	26.42	0.0	0.000312
0.07	10.0	0.07	90.0	0.0003	35.19	26.41	0.0	0.000312
0.07	12.0	0.07	90.0	0.0003	35.18	26.41	0.0	0.000312
0.07	14.0	0.07	90.0	0.0003	35.19	26.41	0.0	0.000312
0.07	16.0	0.07	90.0	0.0003	35.12	26.37	0.0	0.000312

Kailua_avg8.txt

0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.16	26.16	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.15	26.07	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.21	25.96	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.19	25.94	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.21	25.88	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.21	25.87	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.21	25.86	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.21	25.85	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.21	25.85	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.145							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508	
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403	
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508	
120	103.5	0.07	37.05	9.289	10.56	-2.513	4.714	
140	102.2	0.07	47.64	6.251	15.68	-2.962	6.021	
160	100.6	0.07	60.78	4.207	23.28	-3.36	7.487	
180	98.51	0.07	77.27	2.831	34.59	-3.713	9.197	
200	95.95	0.07	98.03	1.905	51.39	-4.027	11.26	
220	92.84	0.07	124.2	1.282	76.35	-4.306	13.8	
221	92.66	0.07	125.7	1.257	77.87	-4.319	13.94; merging,	
240	87.97	0.07	166.8	0.863	113.4	-4.616	17.84	
260	80.41	0.07	240.5	0.58	168.6	-4.947	24.0	
280	69.25	0.07	366.6	0.391	250.5	-5.293	33.37; axial vel	
0.0124								
286	65.14	0.07	426.2	0.347	282.1	-5.399	37.03; trap level,	
300	58.47	0.07	607.6	0.282	347.1	-5.577	44.18; max dilution	
reached								
303	57.46	0.07	645.4	0.273	358.7	-5.606	45.48; begin overlap,	
320	54.23	0.07	788.4	0.253	386.2	-5.713	50.59;	
340	52.69	0.07	877.4	0.248	394.4	-5.793	54.5;	
360	52.16	0.07	918.4	0.246	397.0	-5.856	57.68;	
367	52.13	0.07	922.6	0.246	397.2	-5.878	58.77; local maximum	
rise or fall;								
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						176.24	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(l/y/hr) (m/s)($m^{0.67}/s^2$)	
0.24504	398.9	176.8	20.0	0.00792	0.0	21.2	0.07 3.00E-4	
0.2453	398.3	178.2	25.0	0.0278	0.0	21.2	0.07 3.00E-4	
0.24535	398.0	179.7	30.0	0.0476	0.0	21.2	0.07 3.00E-4	
0.24533	397.8	181.1	35.0	0.0674	0.0	21.2	0.07 3.00E-4	
0.24529	397.7	182.5	40.0	0.0873	0.0	21.2	0.07 3.00E-4	
0.24523	397.7	183.9	45.0	0.107	0.0	21.2	0.07 3.00E-4	
0.24516	397.6	185.2	50.0	0.127	0.0	21.2	0.07 3.00E-4	
0.24508	397.6	186.6	55.0	0.147	0.0	21.2	0.07 3.00E-4	

Kailua_avg8.txt

0.245	397.5	188.0	60.0	0.167	0.0	21.2	0.07	3.00E-4
0.24491	397.5	189.3	65.0	0.186	0.0	21.2	0.07	3.00E-4
0.24482	397.5	190.6	70.0	0.206	0.0	21.2	0.07	3.00E-4
0.24472	397.4	192.0	75.0	0.226	0.0	21.2	0.07	3.00E-4
0.24462	397.4	193.3	80.0	0.246	0.0	21.2	0.07	3.00E-4
0.24445	397.5	194.6	85.0	0.266	0.0	21.2	0.07	3.00E-4
0.24437	397.5	195.9	90.0	0.286	0.0	21.2	0.07	3.00E-4
0.24423	397.6	197.2	95.0	0.306	0.0	21.2	0.07	3.00E-4
0.24407	397.6	198.5	100.0	0.325	0.0	21.2	0.07	3.00E-4
0.24389	397.8	199.8	105.0	0.345	0.0	21.2	0.07	3.00E-4
0.24369	397.9	201.0	110.0	0.365	0.0	21.2	0.07	3.00E-4
0.24347	398.1	202.3	115.0	0.385	0.0	21.2	0.07	3.00E-4
0.24322	398.3	203.5	120.0	0.405	0.0	21.2	0.07	3.00E-4
0.24295	398.6	204.8	125.0	0.425	0.0	21.2	0.07	3.00E-4
0.24266	398.9	206.0	130.0	0.444	0.0	21.2	0.07	3.00E-4
0.24234	399.3	207.2	135.0	0.464	0.0	21.2	0.07	3.00E-4
0.24198	399.7	208.5	140.0	0.484	0.0	21.2	0.07	3.00E-4
0.24161	400.2	209.7	145.0	0.504	0.0	21.2	0.07	3.00E-4
0.24122	400.6	210.9	150.0	0.524	0.0	21.2	0.07	3.00E-4
0.24081	401.2	212.1	155.0	0.544	0.0	21.2	0.07	3.00E-4
0.24038	401.7	213.3	160.0	0.563	0.0	21.2	0.07	3.00E-4
0.23993	402.3	214.5	165.0	0.583	0.0	21.2	0.07	3.00E-4
0.23946	402.9	215.7	170.0	0.603	0.0	21.2	0.07	3.00E-4
0.23897	403.6	216.8	175.0	0.623	0.0	21.2	0.07	3.00E-4
0.23847	404.3	218.0	180.0	0.643	0.0	21.2	0.07	3.00E-4
0.23794	405.0	219.2	185.0	0.663	0.0	21.2	0.07	3.00E-4
0.23741	405.8	220.3	190.0	0.683	0.0	21.2	0.07	3.00E-4
0.23686	406.6	221.5	195.0	0.702	0.0	21.2	0.07	3.00E-4
0.2363	407.4	222.6	200.0	0.722	0.0	21.2	0.07	3.00E-4
0.23571	408.2	223.8	205.0	0.742	0.0	21.2	0.07	3.00E-4
0.23513	409.1	224.9	210.0	0.762	0.0	21.2	0.07	3.00E-4
0.23453	410.0	226.0	215.0	0.782	0.0	21.2	0.07	3.00E-4
0.23392	410.9	227.1	220.0	0.802	0.0	21.2	0.07	3.00E-4
0.2333	411.8	228.3	225.0	0.821	0.0	21.2	0.07	3.00E-4
0.23267	412.8	229.4	230.0	0.841	0.0	21.2	0.07	3.00E-4
0.23203	413.7	230.5	235.0	0.861	0.0	21.2	0.07	3.00E-4
0.23136	414.8	231.6	240.0	0.881	0.0	21.2	0.07	3.00E-4
0.23071	415.8	232.7	245.0	0.901	0.0	21.2	0.07	3.00E-4
0.23006	416.8	233.7	250.0	0.921	0.0	21.2	0.07	3.00E-4
0.22939	417.8	234.8	255.0	0.94	0.0	21.2	0.07	3.00E-4
0.22872	418.9	235.9	260.0	0.96	0.0	21.2	0.07	3.00E-4
0.22805	420.0	237.0	265.0	0.98	0.0	21.2	0.07	3.00E-4
0.22739	421.0	238.1	270.0	1.0	0.0	21.2	0.07	3.00E-4
0.22671	422.1	239.1	275.0	1.02	0.0	21.2	0.07	3.00E-4
0.22603	423.2	240.2	280.0	1.04	0.0	21.2	0.07	3.00E-4
0.22535	424.4	241.2	285.0	1.06	0.0	21.2	0.07	3.00E-4
0.22467	425.5	242.3	290.0	1.079	0.0	21.2	0.07	3.00E-4
0.22398	426.6	243.3	295.0	1.099	0.0	21.2	0.07	3.00E-4
0.22329	427.8	244.4	300.0	1.119	0.0	21.2	0.07	3.00E-4
0.2226	428.9	245.4	305.0	1.139	0.0	21.2	0.07	3.00E-4

count: 58

/ Windows UM3.

Case 24; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
	Far-dir	Disprsn					
m/s	m	m/s	deg	psu	C	kg/kg	s-1
0.07	0.0	0.07	90.0	35.32	23.74	0.0	0.000312
	2.0	0.07	90.0	35.31	23.74	0.0	0.000312
0.07	90.0	0.0003	90.0	35.31	23.74	0.0	0.000312
	4.0	0.07	90.0	35.31	23.74	0.0	0.000312

Kailua_avg8.txt

0.07	90.0	0.0003						
0.07	6.0	0.07	90.0	35.32	23.74	0.0	0.000312	
0.07	90.0	0.0003						
0.07	8.0	0.07	90.0	35.33	23.75	0.0	0.000312	
0.07	90.0	0.0003						
0.07	10.0	0.07	90.0	35.32	23.75	0.0	0.000312	
0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.31	23.77	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.3	23.77	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.33	23.74	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.31	23.74	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.31	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.31	23.72	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.31	23.69	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.31	23.65	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.24	23.59	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.29	23.27	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.32	23.19	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.33	23.18	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.024							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.5	45.29	2.181	-0.558	0.837;	
60	105.3	0.07	15.04	30.48	3.23	-0.966	1.506;	
80	105.0	0.07	20.98	20.51	4.789	-1.462	2.399;	
100	104.4	0.07	28.21	13.8	7.106	-1.999	3.493;	
120	103.4	0.07	36.82	9.289	10.55	-2.498	4.683;	
140	102.2	0.07	47.31	6.251	15.66	-2.941	5.971;	
160	100.5	0.07	60.37	4.207	23.27	-3.333	7.417;	
180	98.41	0.07	76.86	2.831	34.56	-3.682	9.107;	
200	95.86	0.07	97.99	1.905	51.35	-3.993	11.15;	
220	92.82	0.07	125.8	1.282	76.29	-4.271	13.68; merging,	
240	88.15	0.07	176.0	0.863	113.4	-4.598	17.94;	
260	80.75	0.07	254.7	0.58	168.4	-4.964	24.76;	
280	69.63	0.07	381.7	0.391	250.3	-5.339	34.89; axial vel	
0.0123								
297	56.16	0.07	549.7	0.279	350.4	-5.668	47.54; max dilution	
reached								
300	53.26	0.07	585.3	0.263	371.9	-5.728	50.3;	
320	29.49	0.07	913.3	0.177	552.6	-6.133	73.84; axial vel	
0.0643								
322	26.41	0.07	947.3	0.17	574.9	-6.177	76.97; surface,	
Const Eddy Diffusivity.	Farfield dispersion							
m								
	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr)	
						(m/s)	(m0.67/s2)	

Kailua_avg8.txt								
0.16907	577.4	177.3	25.0	0.00581	0.0	21.2	0.07	3.00E-4
0.16927	576.4	178.7	30.0	0.0257	0.0	21.2	0.07	3.00E-4
0.16931	576.0	180.1	35.0	0.0455	0.0	21.2	0.07	3.00E-4
0.16931	575.8	181.6	40.0	0.0653	0.0	21.2	0.07	3.00E-4
0.16928	575.6	183.0	45.0	0.0852	0.0	21.2	0.07	3.00E-4
0.16924	575.5	184.3	50.0	0.105	0.0	21.2	0.07	3.00E-4
0.16919	575.4	185.7	55.0	0.125	0.0	21.2	0.07	3.00E-4
0.16914	575.4	187.1	60.0	0.145	0.0	21.2	0.07	3.00E-4
0.16908	575.3	188.5	65.0	0.165	0.0	21.2	0.07	3.00E-4
0.16902	575.3	189.8	70.0	0.184	0.0	21.2	0.07	3.00E-4
0.16896	575.2	191.1	75.0	0.204	0.0	21.2	0.07	3.00E-4
0.16889	575.2	192.5	80.0	0.224	0.0	21.2	0.07	3.00E-4
0.16882	575.2	193.8	85.0	0.244	0.0	21.2	0.07	3.00E-4
0.16874	575.2	195.1	90.0	0.264	0.0	21.2	0.07	3.00E-4
0.16865	575.3	196.4	95.0	0.284	0.0	21.2	0.07	3.00E-4
0.16855	575.3	197.7	100.0	0.303	0.0	21.2	0.07	3.00E-4
0.16845	575.5	199.0	105.0	0.323	0.0	21.2	0.07	3.00E-4
0.16833	575.6	200.3	110.0	0.343	0.0	21.2	0.07	3.00E-4
0.16819	575.8	201.5	115.0	0.363	0.0	21.2	0.07	3.00E-4
0.16804	576.1	202.8	120.0	0.383	0.0	21.2	0.07	3.00E-4
0.16787	576.4	204.1	125.0	0.403	0.0	21.2	0.07	3.00E-4
0.16769	576.8	205.3	130.0	0.422	0.0	21.2	0.07	3.00E-4
0.16749	577.3	206.6	135.0	0.442	0.0	21.2	0.07	3.00E-4
0.16727	577.8	207.8	140.0	0.462	0.0	21.2	0.07	3.00E-4
0.16703	578.4	209.0	145.0	0.482	0.0	21.2	0.07	3.00E-4
0.16678	579.0	210.2	150.0	0.502	0.0	21.2	0.07	3.00E-4
0.16651	579.7	211.4	155.0	0.522	0.0	21.2	0.07	3.00E-4
0.16623	580.5	212.6	160.0	0.542	0.0	21.2	0.07	3.00E-4
0.16594	581.2	213.8	165.0	0.561	0.0	21.2	0.07	3.00E-4
0.16563	582.1	215.0	170.0	0.581	0.0	21.2	0.07	3.00E-4
0.16531	583.0	216.2	175.0	0.601	0.0	21.2	0.07	3.00E-4
0.16497	583.9	217.4	180.0	0.621	0.0	21.2	0.07	3.00E-4
0.16463	584.9	218.6	185.0	0.641	0.0	21.2	0.07	3.00E-4
0.16427	586.0	219.7	190.0	0.661	0.0	21.2	0.07	3.00E-4
0.16391	587.0	220.9	195.0	0.68	0.0	21.2	0.07	3.00E-4
0.16353	588.2	222.0	200.0	0.7	0.0	21.2	0.07	3.00E-4
0.16314	589.3	223.2	205.0	0.72	0.0	21.2	0.07	3.00E-4
0.16274	590.5	224.3	210.0	0.74	0.0	21.2	0.07	3.00E-4
0.16234	591.8	225.5	215.0	0.76	0.0	21.2	0.07	3.00E-4
0.16193	593.0	226.6	220.0	0.78	0.0	21.2	0.07	3.00E-4
0.16151	594.3	227.7	225.0	0.799	0.0	21.2	0.07	3.00E-4
0.16109	595.7	228.8	230.0	0.819	0.0	21.2	0.07	3.00E-4
0.16065	597.1	229.9	235.0	0.839	0.0	21.2	0.07	3.00E-4
0.16021	598.5	231.1	240.0	0.859	0.0	21.2	0.07	3.00E-4
0.15976	600.0	232.2	245.0	0.879	0.0	21.2	0.07	3.00E-4
0.15931	601.4	233.3	250.0	0.899	0.0	21.2	0.07	3.00E-4
0.15886	602.9	234.3	255.0	0.919	0.0	21.2	0.07	3.00E-4
0.1584	604.4	235.4	260.0	0.938	0.0	21.2	0.07	3.00E-4
0.15794	605.9	236.5	265.0	0.958	0.0	21.2	0.07	3.00E-4
0.15748	607.5	237.6	270.0	0.978	0.0	21.2	0.07	3.00E-4
0.15701	609.0	238.7	275.0	0.998	0.0	21.2	0.07	3.00E-4
0.15656	610.6	239.7	280.0	1.018	0.0	21.2	0.07	3.00E-4
0.15609	612.2	240.8	285.0	1.038	0.0	21.2	0.07	3.00E-4
0.15562	613.8	241.9	290.0	1.057	0.0	21.2	0.07	3.00E-4
0.15515	615.4	242.9	295.0	1.077	0.0	21.2	0.07	3.00E-4
0.15468	617.0	244.0	300.0	1.097	0.0	21.2	0.07	3.00E-4
0.15421	618.7	245.0	305.0	1.117	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 25; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
Far-spd	Far-dir	Disprsn				

Kailua_avg8.txt								
m/s	m deg	m/s m0.67/s2	deg	psu	c	kg/kg	s-1	
0.07	0.0 90.0	0.07 0.0003	90.0	35.32	23.74	0.0	0.000312	
0.07	2.0 90.0	0.07 0.0003	90.0	35.31	23.74	0.0	0.000312	
0.07	4.0 90.0	0.07 0.0003	90.0	35.31	23.74	0.0	0.000312	
0.07	6.0 90.0	0.07 0.0003	90.0	35.32	23.74	0.0	0.000312	
0.07	8.0 90.0	0.07 0.0003	90.0	35.33	23.75	0.0	0.000312	
0.07	10.0 90.0	0.07 0.0003	90.0	35.32	23.75	0.0	0.000312	
0.07	12.0 90.0	0.07 0.0003	90.0	35.31	23.77	0.0	0.000312	
0.07	14.0 90.0	0.07 0.0003	90.0	35.3	23.77	0.0	0.000312	
0.07	16.0 90.0	0.07 0.0003	90.0	35.33	23.74	0.0	0.000312	
0.07	18.0 90.0	0.07 0.0003	90.0	35.31	23.74	0.0	0.000312	
0.07	20.0 90.0	0.07 0.0003	90.0	35.31	23.73	0.0	0.000312	
0.07	22.0 90.0	0.07 0.0003	90.0	35.31	23.72	0.0	0.000312	
0.07	24.0 90.0	0.07 0.0003	90.0	35.31	23.69	0.0	0.000312	
0.07	26.0 90.0	0.07 0.0003	90.0	35.31	23.65	0.0	0.000312	
0.07	28.0 90.0	0.07 0.0003	90.0	35.24	23.59	0.0	0.000312	
0.07	30.0 90.0	0.07 0.0003	90.0	35.29	23.27	0.0	0.000312	
0.07	32.0 90.0	0.07 0.0003	90.0	35.32	23.19	0.0	0.000312	
0.07	33.0 90.0	0.07 0.0003	90.0	35.33	23.18	0.0	0.000312	
0.07	35.0 90.0	0.07 0.0003						
Ttl-flo Temp		(MGD)	(C)					
	15.25	28.04						
Froude number: 6.024								
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.5	45.29	2.181	-0.558	0.837;	
60	105.3	0.07	15.04	30.48	3.23	-0.966	1.506;	
80	105.0	0.07	20.98	20.51	4.789	-1.462	2.399;	
100	104.4	0.07	28.21	13.8	7.106	-1.999	3.493;	
120	103.4	0.07	36.82	9.289	10.55	-2.498	4.683;	
140	102.2	0.07	47.31	6.251	15.66	-2.941	5.971;	
160	100.5	0.07	60.37	4.207	23.27	-3.333	7.417;	
180	98.41	0.07	76.86	2.831	34.56	-3.682	9.107;	
200	95.86	0.07	97.99	1.905	51.35	-3.993	11.15;	
220	92.82	0.07	125.8	1.282	76.29	-4.271	13.68;	merging,
240	88.15	0.07	176.0	0.863	113.4	-4.598	17.94;	
260	80.75	0.07	254.7	0.58	168.4	-4.964	24.76;	
280	69.63	0.07	381.7	0.391	250.3	-5.339	34.89;	axial vel
0.0123								
297	56.16	0.07	549.7	0.279	350.4	-5.668	47.54;	max dilution
reached 300	53.26	0.07	585.3	0.263	371.9	-5.728	50.3;	

					Kailua_avg8.txt			
320	29.49	0.07	913.3	0.177	552.6	-6.133	73.84; axial vel	
0.0643	322	26.41	0.07	947.3	0.17	574.9	-6.177	76.97; surface,
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of							176.87
m	conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m0.67/s2)
	(ppm)		(m)	(m)	(hrs)			
0.16907	577.4	177.3	25.0	0.00581	0.0	21.2	0.07	3.00E-4
0.16927	576.4	178.7	30.0	0.0257	0.0	21.2	0.07	3.00E-4
0.16931	576.0	180.1	35.0	0.0455	0.0	21.2	0.07	3.00E-4
0.16931	575.8	181.6	40.0	0.0653	0.0	21.2	0.07	3.00E-4
0.16928	575.6	183.0	45.0	0.0852	0.0	21.2	0.07	3.00E-4
0.16924	575.5	184.3	50.0	0.105	0.0	21.2	0.07	3.00E-4
0.16919	575.4	185.7	55.0	0.125	0.0	21.2	0.07	3.00E-4
0.16914	575.4	187.1	60.0	0.145	0.0	21.2	0.07	3.00E-4
0.16908	575.3	188.5	65.0	0.165	0.0	21.2	0.07	3.00E-4
0.16902	575.3	189.8	70.0	0.184	0.0	21.2	0.07	3.00E-4
0.16896	575.2	191.1	75.0	0.204	0.0	21.2	0.07	3.00E-4
0.16889	575.2	192.5	80.0	0.224	0.0	21.2	0.07	3.00E-4
0.16882	575.2	193.8	85.0	0.244	0.0	21.2	0.07	3.00E-4
0.16874	575.2	195.1	90.0	0.264	0.0	21.2	0.07	3.00E-4
0.16865	575.3	196.4	95.0	0.284	0.0	21.2	0.07	3.00E-4
0.16855	575.3	197.7	100.0	0.303	0.0	21.2	0.07	3.00E-4
0.16845	575.5	199.0	105.0	0.323	0.0	21.2	0.07	3.00E-4
0.16833	575.6	200.3	110.0	0.343	0.0	21.2	0.07	3.00E-4
0.16819	575.8	201.5	115.0	0.363	0.0	21.2	0.07	3.00E-4
0.16804	576.1	202.8	120.0	0.383	0.0	21.2	0.07	3.00E-4
0.16787	576.4	204.1	125.0	0.403	0.0	21.2	0.07	3.00E-4
0.16769	576.8	205.3	130.0	0.422	0.0	21.2	0.07	3.00E-4
0.16749	577.3	206.6	135.0	0.442	0.0	21.2	0.07	3.00E-4
0.16727	577.8	207.8	140.0	0.462	0.0	21.2	0.07	3.00E-4
0.16703	578.4	209.0	145.0	0.482	0.0	21.2	0.07	3.00E-4
0.16678	579.0	210.2	150.0	0.502	0.0	21.2	0.07	3.00E-4
0.16651	579.7	211.4	155.0	0.522	0.0	21.2	0.07	3.00E-4
0.16623	580.5	212.6	160.0	0.542	0.0	21.2	0.07	3.00E-4
0.16594	581.2	213.8	165.0	0.561	0.0	21.2	0.07	3.00E-4
0.16563	582.1	215.0	170.0	0.581	0.0	21.2	0.07	3.00E-4
0.16531	583.0	216.2	175.0	0.601	0.0	21.2	0.07	3.00E-4
0.16497	583.9	217.4	180.0	0.621	0.0	21.2	0.07	3.00E-4
0.16463	584.9	218.6	185.0	0.641	0.0	21.2	0.07	3.00E-4
0.16427	586.0	219.7	190.0	0.661	0.0	21.2	0.07	3.00E-4
0.16391	587.0	220.9	195.0	0.68	0.0	21.2	0.07	3.00E-4
0.16353	588.2	222.0	200.0	0.7	0.0	21.2	0.07	3.00E-4
0.16314	589.3	223.2	205.0	0.72	0.0	21.2	0.07	3.00E-4
0.16274	590.5	224.3	210.0	0.74	0.0	21.2	0.07	3.00E-4
0.16234	591.8	225.5	215.0	0.76	0.0	21.2	0.07	3.00E-4
0.16193	593.0	226.6	220.0	0.78	0.0	21.2	0.07	3.00E-4
0.16151	594.3	227.7	225.0	0.799	0.0	21.2	0.07	3.00E-4
0.16109	595.7	228.8	230.0	0.819	0.0	21.2	0.07	3.00E-4
0.16065	597.1	229.9	235.0	0.839	0.0	21.2	0.07	3.00E-4
0.16021	598.5	231.1	240.0	0.859	0.0	21.2	0.07	3.00E-4
0.15976	600.0	232.2	245.0	0.879	0.0	21.2	0.07	3.00E-4
0.15931	601.4	233.3	250.0	0.899	0.0	21.2	0.07	3.00E-4
0.15886	602.9	234.3	255.0	0.919	0.0	21.2	0.07	3.00E-4
0.1584	604.4	235.4	260.0	0.938	0.0	21.2	0.07	3.00E-4
0.15794	605.9	236.5	265.0	0.958	0.0	21.2	0.07	3.00E-4
0.15748	607.5	237.6	270.0	0.978	0.0	21.2	0.07	3.00E-4
0.15701	609.0	238.7	275.0	0.998	0.0	21.2	0.07	3.00E-4
0.15656	610.6	239.7	280.0	1.018	0.0	21.2	0.07	3.00E-4
0.15609	612.2	240.8	285.0	1.038	0.0	21.2	0.07	3.00E-4
0.15562	613.8	241.9	290.0	1.057	0.0	21.2	0.07	3.00E-4
0.15515	615.4	242.9	295.0	1.077	0.0	21.2	0.07	3.00E-4
0.15468	617.0	244.0	300.0	1.097	0.0	21.2	0.07	3.00E-4

Kailua_avg8.txt

0.15421 618.7 245.0 305.0 1.117 0.0 21.2 0.07 3.00E-4
 count: 57
 / Windows UM3.
 Case 26; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
m/s	m	m/s	m ^{0.67} /s ²	deg	psu	C	kg/kg
							s-1
0.07	0.0	0.07	0.07	90.0	35.32	23.74	0.0
0.07	90.0	0.0003					0.000312
0.07	2.0	0.07	0.07	90.0	35.31	23.74	0.0
0.07	90.0	0.0003					0.000312
0.07	4.0	0.07	0.07	90.0	35.31	23.74	0.0
0.07	90.0	0.0003					0.000312
0.07	6.0	0.07	0.07	90.0	35.32	23.74	0.0
0.07	90.0	0.0003					0.000312
0.07	8.0	0.07	0.07	90.0	35.33	23.75	0.0
0.07	90.0	0.0003					0.000312
0.07	10.0	0.07	0.07	90.0	35.32	23.75	0.0
0.07	90.0	0.0003					0.000312
0.07	12.0	0.07	0.07	90.0	35.31	23.77	0.0
0.07	90.0	0.0003					0.000312
0.07	14.0	0.07	0.07	90.0	35.3	23.77	0.0
0.07	90.0	0.0003					0.000312
0.07	16.0	0.07	0.07	90.0	35.33	23.74	0.0
0.07	90.0	0.0003					0.000312
0.07	18.0	0.07	0.07	90.0	35.31	23.74	0.0
0.07	90.0	0.0003					0.000312
0.07	20.0	0.07	0.07	90.0	35.31	23.73	0.0
0.07	90.0	0.0003					0.000312
0.07	22.0	0.07	0.07	90.0	35.31	23.72	0.0
0.07	90.0	0.0003					0.000312
0.07	24.0	0.07	0.07	90.0	35.31	23.69	0.0
0.07	90.0	0.0003					0.000312
0.07	26.0	0.07	0.07	90.0	35.31	23.65	0.0
0.07	90.0	0.0003					0.000312
0.07	28.0	0.07	0.07	90.0	35.24	23.59	0.0
0.07	90.0	0.0003					0.000312
0.07	30.0	0.07	0.07	90.0	35.29	23.27	0.0
0.07	90.0	0.0003					0.000312
0.07	32.0	0.07	0.07	90.0	35.32	23.19	0.0
0.07	90.0	0.0003					0.000312
0.07	33.0	0.07	0.07	90.0	35.33	23.18	0.0
0.07	90.0	0.0003					0.000312
Ttl-flo	Temp						
(MGD)	(C)						
15.25	28.04						
Froude number:	6.024						
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	()	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.5	45.29	2.181	-0.558	0.837
60	105.3	0.07	15.04	30.48	3.23	-0.966	1.506
80	105.0	0.07	20.98	20.51	4.789	-1.462	2.399
100	104.4	0.07	28.21	13.8	7.106	-1.999	3.493
120	103.4	0.07	36.82	9.289	10.55	-2.498	4.683
140	102.2	0.07	47.31	6.251	15.66	-2.941	5.971
160	100.5	0.07	60.37	4.207	23.27	-3.333	7.417
180	98.41	0.07	76.86	2.831	34.56	-3.682	9.107
200	95.86	0.07	97.99	1.905	51.35	-3.993	11.15
220	92.82	0.07	125.8	1.282	76.29	-4.271	13.68; merging,

240 88.15 0.07 176.0 Kailua_avg8.txt
 260 80.75 0.07 254.7 0.863 113.4 -4.598 17.94;
 280 69.63 0.07 381.7 0.58 168.4 -4.964 24.76;
 0.0123 297 56.16 0.07 549.7 0.391 250.3 -5.339 34.89; axial vel
 reached 300 53.26 0.07 585.3 0.279 350.4 -5.668 47.54; max dilution
 320 29.49 0.07 913.3 0.177 371.9 -5.728 50.3;
 0.0643 322 26.41 0.07 947.3 0.17 552.6 -6.133 73.84; axial vel
 Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 176.87
 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s) (m ^{0.67} /s ²)
0.16907	577.4	177.3	25.0	0.00581	0.0	21.2	0.07 3.00E-4
0.16927	576.4	178.7	30.0	0.0257	0.0	21.2	0.07 3.00E-4
0.16931	576.0	180.1	35.0	0.0455	0.0	21.2	0.07 3.00E-4
0.16931	575.8	181.6	40.0	0.0653	0.0	21.2	0.07 3.00E-4
0.16928	575.6	183.0	45.0	0.0852	0.0	21.2	0.07 3.00E-4
0.16924	575.5	184.3	50.0	0.105	0.0	21.2	0.07 3.00E-4
0.16919	575.4	185.7	55.0	0.125	0.0	21.2	0.07 3.00E-4
0.16914	575.4	187.1	60.0	0.145	0.0	21.2	0.07 3.00E-4
0.16908	575.3	188.5	65.0	0.165	0.0	21.2	0.07 3.00E-4
0.16902	575.3	189.8	70.0	0.184	0.0	21.2	0.07 3.00E-4
0.16896	575.2	191.1	75.0	0.204	0.0	21.2	0.07 3.00E-4
0.16889	575.2	192.5	80.0	0.224	0.0	21.2	0.07 3.00E-4
0.16882	575.2	193.8	85.0	0.244	0.0	21.2	0.07 3.00E-4
0.16874	575.2	195.1	90.0	0.264	0.0	21.2	0.07 3.00E-4
0.16865	575.3	196.4	95.0	0.284	0.0	21.2	0.07 3.00E-4
0.16855	575.3	197.7	100.0	0.303	0.0	21.2	0.07 3.00E-4
0.16845	575.5	199.0	105.0	0.323	0.0	21.2	0.07 3.00E-4
0.16833	575.6	200.3	110.0	0.343	0.0	21.2	0.07 3.00E-4
0.16819	575.8	201.5	115.0	0.363	0.0	21.2	0.07 3.00E-4
0.16804	576.1	202.8	120.0	0.383	0.0	21.2	0.07 3.00E-4
0.16787	576.4	204.1	125.0	0.403	0.0	21.2	0.07 3.00E-4
0.16769	576.8	205.3	130.0	0.422	0.0	21.2	0.07 3.00E-4
0.16749	577.3	206.6	135.0	0.442	0.0	21.2	0.07 3.00E-4
0.16727	577.8	207.8	140.0	0.462	0.0	21.2	0.07 3.00E-4
0.16703	578.4	209.0	145.0	0.482	0.0	21.2	0.07 3.00E-4
0.16678	579.0	210.2	150.0	0.502	0.0	21.2	0.07 3.00E-4
0.16651	579.7	211.4	155.0	0.522	0.0	21.2	0.07 3.00E-4
0.16623	580.5	212.6	160.0	0.542	0.0	21.2	0.07 3.00E-4
0.16594	581.2	213.8	165.0	0.561	0.0	21.2	0.07 3.00E-4
0.16563	582.1	215.0	170.0	0.581	0.0	21.2	0.07 3.00E-4
0.16531	583.0	216.2	175.0	0.601	0.0	21.2	0.07 3.00E-4
0.16497	583.9	217.4	180.0	0.621	0.0	21.2	0.07 3.00E-4
0.16463	584.9	218.6	185.0	0.641	0.0	21.2	0.07 3.00E-4
0.16427	586.0	219.7	190.0	0.661	0.0	21.2	0.07 3.00E-4
0.16391	587.0	220.9	195.0	0.68	0.0	21.2	0.07 3.00E-4
0.16353	588.2	222.0	200.0	0.7	0.0	21.2	0.07 3.00E-4
0.16314	589.3	223.2	205.0	0.72	0.0	21.2	0.07 3.00E-4
0.16274	590.5	224.3	210.0	0.74	0.0	21.2	0.07 3.00E-4
0.16234	591.8	225.5	215.0	0.76	0.0	21.2	0.07 3.00E-4
0.16193	593.0	226.6	220.0	0.78	0.0	21.2	0.07 3.00E-4
0.16151	594.3	227.7	225.0	0.799	0.0	21.2	0.07 3.00E-4
0.16109	595.7	228.8	230.0	0.819	0.0	21.2	0.07 3.00E-4
0.16065	597.1	229.9	235.0	0.839	0.0	21.2	0.07 3.00E-4
0.16021	598.5	231.1	240.0	0.859	0.0	21.2	0.07 3.00E-4
0.15976	600.0	232.2	245.0	0.879	0.0	21.2	0.07 3.00E-4
0.15931	601.4	233.3	250.0	0.899	0.0	21.2	0.07 3.00E-4
0.15886	602.9	234.3	255.0	0.919	0.0	21.2	0.07 3.00E-4
0.1584	604.4	235.4	260.0	0.938	0.0	21.2	0.07 3.00E-4
0.15794	605.9	236.5	265.0	0.958	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt								
0.15748	607.5	237.6	270.0	0.978	0.0	21.2	0.07	3.00E-4
0.15701	609.0	238.7	275.0	0.998	0.0	21.2	0.07	3.00E-4
0.15656	610.6	239.7	280.0	1.018	0.0	21.2	0.07	3.00E-4
0.15609	612.2	240.8	285.0	1.038	0.0	21.2	0.07	3.00E-4
0.15562	613.8	241.9	290.0	1.057	0.0	21.2	0.07	3.00E-4
0.15515	615.4	242.9	295.0	1.077	0.0	21.2	0.07	3.00E-4
0.15468	617.0	244.0	300.0	1.097	0.0	21.2	0.07	3.00E-4
0.15421	618.7	245.0	305.0	1.117	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 27; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m ^{0.67} /s ²	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
0.07	90.0	0.0	0.07	0.0003	35.32	23.74	0.0	0.000312
0.07	90.0	2.0	0.07	0.0003	35.31	23.74	0.0	0.000312
0.07	90.0	4.0	0.07	0.0003	35.31	23.74	0.0	0.000312
0.07	90.0	6.0	0.07	0.0003	35.32	23.74	0.0	0.000312
0.07	90.0	8.0	0.07	0.0003	35.33	23.75	0.0	0.000312
0.07	90.0	10.0	0.07	0.0003	35.32	23.75	0.0	0.000312
0.07	90.0	12.0	0.07	0.0003	35.31	23.77	0.0	0.000312
0.07	90.0	14.0	0.07	0.0003	35.3	23.77	0.0	0.000312
0.07	90.0	16.0	0.07	0.0003	35.33	23.74	0.0	0.000312
0.07	90.0	18.0	0.07	0.0003	35.31	23.74	0.0	0.000312
0.07	90.0	20.0	0.07	0.0003	35.31	23.73	0.0	0.000312
0.07	90.0	22.0	0.07	0.0003	35.31	23.72	0.0	0.000312
0.07	90.0	24.0	0.07	0.0003	35.31	23.69	0.0	0.000312
0.07	90.0	26.0	0.07	0.0003	35.31	23.65	0.0	0.000312
0.07	90.0	28.0	0.07	0.0003	35.24	23.59	0.0	0.000312
0.07	90.0	30.0	0.07	0.0003	35.29	23.27	0.0	0.000312
0.07	90.0	32.0	0.07	0.0003	35.32	23.19	0.0	0.000312
0.07	90.0	33.0	0.07	0.0003	35.33	23.18	0.0	0.000312
0.07	90.0	35.0	0.07	0.0003				
		Ttl-flo (MGD)	Temp (C)					
		15.25	28.04					

Froude number: 6.024

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.5	45.29	2.181	-0.558	0.837
60	105.3	0.07	15.04	30.48	3.23	-0.966	1.506
80	105.0	0.07	20.98	20.51	4.789	-1.462	2.399

Kailua_avg8.txt

100	104.4	0.07	28.21	13.8	7.106	-1.999	3.493;
120	103.4	0.07	36.82	9.289	10.55	-2.498	4.683;
140	102.2	0.07	47.31	6.251	15.66	-2.941	5.971;
160	100.5	0.07	60.37	4.207	23.27	-3.333	7.417;
180	98.41	0.07	76.86	2.831	34.56	-3.682	9.107;
200	95.86	0.07	97.99	1.905	51.35	-3.993	11.15;
220	92.82	0.07	125.8	1.282	76.29	-4.271	13.68; merging,
240	88.15	0.07	176.0	0.863	113.4	-4.598	17.94;
260	80.75	0.07	254.7	0.58	168.4	-4.964	24.76;
280	69.63	0.07	381.7	0.391	250.3	-5.339	34.89; axial vel
0.0123							
297	56.16	0.07	549.7	0.279	350.4	-5.668	47.54; max dilution
reached							
300	53.26	0.07	585.3	0.263	371.9	-5.728	50.3;
320	29.49	0.07	913.3	0.177	552.6	-6.133	73.84; axial vel
0.0643							
322	26.41	0.07	947.3	0.17	574.9	-6.177	76.97; surface,
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of	m					176.87

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16907	577.4	177.3	25.0	0.00581	0.0	21.2	0.07 3.00E-4
0.16927	576.4	178.7	30.0	0.0257	0.0	21.2	0.07 3.00E-4
0.16931	576.0	180.1	35.0	0.0455	0.0	21.2	0.07 3.00E-4
0.16931	575.8	181.6	40.0	0.0653	0.0	21.2	0.07 3.00E-4
0.16928	575.6	183.0	45.0	0.0852	0.0	21.2	0.07 3.00E-4
0.16924	575.5	184.3	50.0	0.105	0.0	21.2	0.07 3.00E-4
0.16919	575.4	185.7	55.0	0.125	0.0	21.2	0.07 3.00E-4
0.16914	575.4	187.1	60.0	0.145	0.0	21.2	0.07 3.00E-4
0.16908	575.3	188.5	65.0	0.165	0.0	21.2	0.07 3.00E-4
0.16902	575.3	189.8	70.0	0.184	0.0	21.2	0.07 3.00E-4
0.16896	575.2	191.1	75.0	0.204	0.0	21.2	0.07 3.00E-4
0.16889	575.2	192.5	80.0	0.224	0.0	21.2	0.07 3.00E-4
0.16882	575.2	193.8	85.0	0.244	0.0	21.2	0.07 3.00E-4
0.16874	575.2	195.1	90.0	0.264	0.0	21.2	0.07 3.00E-4
0.16865	575.3	196.4	95.0	0.284	0.0	21.2	0.07 3.00E-4
0.16855	575.3	197.7	100.0	0.303	0.0	21.2	0.07 3.00E-4
0.16845	575.5	199.0	105.0	0.323	0.0	21.2	0.07 3.00E-4
0.16833	575.6	200.3	110.0	0.343	0.0	21.2	0.07 3.00E-4
0.16819	575.8	201.5	115.0	0.363	0.0	21.2	0.07 3.00E-4
0.16804	576.1	202.8	120.0	0.383	0.0	21.2	0.07 3.00E-4
0.16787	576.4	204.1	125.0	0.403	0.0	21.2	0.07 3.00E-4
0.16769	576.8	205.3	130.0	0.422	0.0	21.2	0.07 3.00E-4
0.16749	577.3	206.6	135.0	0.442	0.0	21.2	0.07 3.00E-4
0.16727	577.8	207.8	140.0	0.462	0.0	21.2	0.07 3.00E-4
0.16703	578.4	209.0	145.0	0.482	0.0	21.2	0.07 3.00E-4
0.16678	579.0	210.2	150.0	0.502	0.0	21.2	0.07 3.00E-4
0.16651	579.7	211.4	155.0	0.522	0.0	21.2	0.07 3.00E-4
0.16623	580.5	212.6	160.0	0.542	0.0	21.2	0.07 3.00E-4
0.16594	581.2	213.8	165.0	0.561	0.0	21.2	0.07 3.00E-4
0.16563	582.1	215.0	170.0	0.581	0.0	21.2	0.07 3.00E-4
0.16531	583.0	216.2	175.0	0.601	0.0	21.2	0.07 3.00E-4
0.16497	583.9	217.4	180.0	0.621	0.0	21.2	0.07 3.00E-4
0.16463	584.9	218.6	185.0	0.641	0.0	21.2	0.07 3.00E-4
0.16427	586.0	219.7	190.0	0.661	0.0	21.2	0.07 3.00E-4
0.16391	587.0	220.9	195.0	0.68	0.0	21.2	0.07 3.00E-4
0.16353	588.2	222.0	200.0	0.7	0.0	21.2	0.07 3.00E-4
0.16314	589.3	223.2	205.0	0.72	0.0	21.2	0.07 3.00E-4
0.16274	590.5	224.3	210.0	0.74	0.0	21.2	0.07 3.00E-4
0.16234	591.8	225.5	215.0	0.76	0.0	21.2	0.07 3.00E-4
0.16193	593.0	226.6	220.0	0.78	0.0	21.2	0.07 3.00E-4
0.16151	594.3	227.7	225.0	0.799	0.0	21.2	0.07 3.00E-4
0.16109	595.7	228.8	230.0	0.819	0.0	21.2	0.07 3.00E-4

					Kailua_avg8.txt			
0.16065	597.1	229.9	235.0	0.839	0.0	21.2	0.07	3.00E-4
0.16021	598.5	231.1	240.0	0.859	0.0	21.2	0.07	3.00E-4
0.15976	600.0	232.2	245.0	0.879	0.0	21.2	0.07	3.00E-4
0.15931	601.4	233.3	250.0	0.899	0.0	21.2	0.07	3.00E-4
0.15886	602.9	234.3	255.0	0.919	0.0	21.2	0.07	3.00E-4
0.1584	604.4	235.4	260.0	0.938	0.0	21.2	0.07	3.00E-4
0.15794	605.9	236.5	265.0	0.958	0.0	21.2	0.07	3.00E-4
0.15748	607.5	237.6	270.0	0.978	0.0	21.2	0.07	3.00E-4
0.15701	609.0	238.7	275.0	0.998	0.0	21.2	0.07	3.00E-4
0.15656	610.6	239.7	280.0	1.018	0.0	21.2	0.07	3.00E-4
0.15609	612.2	240.8	285.0	1.038	0.0	21.2	0.07	3.00E-4
0.15562	613.8	241.9	290.0	1.057	0.0	21.2	0.07	3.00E-4
0.15515	615.4	242.9	295.0	1.077	0.0	21.2	0.07	3.00E-4
0.15468	617.0	244.0	300.0	1.097	0.0	21.2	0.07	3.00E-4
0.15421	618.7	245.0	305.0	1.117	0.0	21.2	0.07	3.00E-4

count: 57

/ windows UM3.

Case 28; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir deg	Disprsn m/s	deg	psu	C	kg/kg	s-1	
0.07	0.0	0.07	90.0	35.16	24.2	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.16	24.2	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.15	24.21	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.15	24.2	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.16	24.16	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.17	24.09	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.19	24.06	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.19	24.05	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.19	24.05	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.19	24.05	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.19	24.04	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.19	24.01	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.18	23.93	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.22	23.77	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.24	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.24	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.24	23.77	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.23	23.79	0.0	0.000312	
	90.0	0.0003						
Tt1-flo (MGD)	Temp (C)							
15.25	28.04							
Froude number:	6.055							

Kailua_avg8.txt

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.181	-0.558	0.837;
60	105.3	0.07	15.04	30.48	3.231	-0.966	1.507;
80	105.0	0.07	20.99	20.51	4.79	-1.462	2.4;
100	104.4	0.07	28.24	13.8	7.107	-2.001	3.497;
120	103.5	0.07	36.87	9.289	10.55	-2.502	4.691;
140	102.2	0.07	47.36	6.251	15.67	-2.946	5.983;
160	100.5	0.07	60.39	4.207	23.27	-3.339	7.432;
180	98.42	0.07	76.72	2.831	34.57	-3.688	9.122;
200	95.83	0.07	97.28	1.905	51.35	-3.998	11.16;
220	92.68	0.07	123.2	1.282	76.3	-4.274	13.67;
222	92.33	0.07	126.1	1.232	79.38	-4.3	13.95; merging,
240	87.83	0.07	165.1	0.863	113.4	-4.576	17.6;
260	80.39	0.07	242.8	0.58	168.4	-4.901	23.67;
280	70.3	0.07	404.3	0.391	250.3	-5.253	33.2; axial vel
0.012							
297	59.25	0.07	638.1	0.279	350.5	-5.604	46.75; max dilution
reached							
300	57.02	0.07	690.9	0.263	371.9	-5.674	49.96;
317	42.19	0.07	1060.9	0.187	520.8	-6.131	75.9; trap level,
319	40.15	0.07	1113.7	0.18	541.8	-6.193	80.11; surface,
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of							181.09
m							

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	conc (ppm)	ly/hr (ly/hr)	vel (m/s)(m ^{0.67} /s ²)
0.17935	544.4	181.2	25.0	0.00202	0.0	21.2	0.07 3.00E-4
0.17959	543.4	182.7	30.0	0.0219	0.0	21.2	0.07 3.00E-4
0.17966	543.0	184.1	35.0	0.0417	0.0	21.2	0.07 3.00E-4
0.17966	542.7	185.6	40.0	0.0615	0.0	21.2	0.07 3.00E-4
0.17963	542.6	187.0	45.0	0.0814	0.0	21.2	0.07 3.00E-4
0.17959	542.4	188.4	50.0	0.101	0.0	21.2	0.07 3.00E-4
0.17954	542.3	189.8	55.0	0.121	0.0	21.2	0.07 3.00E-4
0.17948	542.3	191.1	60.0	0.141	0.0	21.2	0.07 3.00E-4
0.17942	542.2	192.5	65.0	0.161	0.0	21.2	0.07 3.00E-4
0.17936	542.2	193.9	70.0	0.181	0.0	21.2	0.07 3.00E-4
0.1793	542.1	195.2	75.0	0.2	0.0	21.2	0.07 3.00E-4
0.17923	542.1	196.6	80.0	0.22	0.0	21.2	0.07 3.00E-4
0.17915	542.1	197.9	85.0	0.24	0.0	21.2	0.07 3.00E-4
0.17907	542.1	199.2	90.0	0.26	0.0	21.2	0.07 3.00E-4
0.17898	542.1	200.6	95.0	0.28	0.0	21.2	0.07 3.00E-4
0.17888	542.2	201.9	100.0	0.3	0.0	21.2	0.07 3.00E-4
0.17877	542.3	203.2	105.0	0.319	0.0	21.2	0.07 3.00E-4
0.17865	542.4	204.5	110.0	0.339	0.0	21.2	0.07 3.00E-4
0.17852	542.6	205.7	115.0	0.359	0.0	21.2	0.07 3.00E-4
0.17837	542.8	207.0	120.0	0.379	0.0	21.2	0.07 3.00E-4
0.1782	543.1	208.3	125.0	0.399	0.0	21.2	0.07 3.00E-4
0.17802	543.5	209.6	130.0	0.419	0.0	21.2	0.07 3.00E-4
0.17782	543.8	210.8	135.0	0.439	0.0	21.2	0.07 3.00E-4
0.1776	544.3	212.1	140.0	0.458	0.0	21.2	0.07 3.00E-4
0.17736	544.8	213.3	145.0	0.478	0.0	21.2	0.07 3.00E-4
0.1771	545.4	214.5	150.0	0.498	0.0	21.2	0.07 3.00E-4
0.17683	546.0	215.7	155.0	0.518	0.0	21.2	0.07 3.00E-4
0.17654	546.6	217.0	160.0	0.538	0.0	21.2	0.07 3.00E-4
0.17624	547.3	218.2	165.0	0.558	0.0	21.2	0.07 3.00E-4
0.17593	548.1	219.4	170.0	0.577	0.0	21.2	0.07 3.00E-4
0.1756	548.9	220.6	175.0	0.597	0.0	21.2	0.07 3.00E-4
0.17526	549.7	221.8	180.0	0.617	0.0	21.2	0.07 3.00E-4
0.17491	550.6	223.0	185.0	0.637	0.0	21.2	0.07 3.00E-4
0.17454	551.6	224.1	190.0	0.657	0.0	21.2	0.07 3.00E-4
0.17416	552.5	225.3	195.0	0.677	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt								
0.17378	553.5	226.5	200.0	0.696	0.0	21.2	0.07	3.00E-4
0.17338	554.6	227.6	205.0	0.716	0.0	21.2	0.07	3.00E-4
0.17297	555.7	228.8	210.0	0.736	0.0	21.2	0.07	3.00E-4
0.17255	556.8	229.9	215.0	0.756	0.0	21.2	0.07	3.00E-4
0.17213	558.0	231.1	220.0	0.776	0.0	21.2	0.07	3.00E-4
0.1717	559.1	232.2	225.0	0.796	0.0	21.2	0.07	3.00E-4
0.17126	560.4	233.3	230.0	0.816	0.0	21.2	0.07	3.00E-4
0.17081	561.6	234.5	235.0	0.835	0.0	21.2	0.07	3.00E-4
0.17036	562.9	235.6	240.0	0.855	0.0	21.2	0.07	3.00E-4
0.1699	564.2	236.7	245.0	0.875	0.0	21.2	0.07	3.00E-4
0.16942	565.6	237.8	250.0	0.895	0.0	21.2	0.07	3.00E-4
0.16895	566.9	238.9	255.0	0.915	0.0	21.2	0.07	3.00E-4
0.16848	568.3	240.0	260.0	0.935	0.0	21.2	0.07	3.00E-4
0.168	569.7	241.1	265.0	0.954	0.0	21.2	0.07	3.00E-4
0.16752	571.1	242.2	270.0	0.974	0.0	21.2	0.07	3.00E-4
0.16703	572.6	243.3	275.0	0.994	0.0	21.2	0.07	3.00E-4
0.16655	574.0	244.4	280.0	1.014	0.0	21.2	0.07	3.00E-4
0.16607	575.4	245.5	285.0	1.034	0.0	21.2	0.07	3.00E-4
0.16558	576.9	246.5	290.0	1.054	0.0	21.2	0.07	3.00E-4
0.16509	578.4	247.6	295.0	1.073	0.0	21.2	0.07	3.00E-4
0.1646	579.9	248.7	300.0	1.093	0.0	21.2	0.07	3.00E-4
0.1641	581.4	249.7	305.0	1.113	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 29; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	90.0	0.07	0.0003	35.16	24.2	0.0	0.000312
0.07	2.0	90.0	0.07	0.0003	35.16	24.2	0.0	0.000312
0.07	4.0	90.0	0.07	0.0003	35.15	24.21	0.0	0.000312
0.07	6.0	90.0	0.07	0.0003	35.15	24.2	0.0	0.000312
0.07	8.0	90.0	0.07	0.0003	35.16	24.16	0.0	0.000312
0.07	10.0	90.0	0.07	0.0003	35.17	24.09	0.0	0.000312
0.07	12.0	90.0	0.07	0.0003	35.19	24.06	0.0	0.000312
0.07	14.0	90.0	0.07	0.0003	35.19	24.05	0.0	0.000312
0.07	16.0	90.0	0.07	0.0003	35.19	24.05	0.0	0.000312
0.07	18.0	90.0	0.07	0.0003	35.19	24.05	0.0	0.000312
0.07	20.0	90.0	0.07	0.0003	35.19	24.04	0.0	0.000312
0.07	22.0	90.0	0.07	0.0003	35.19	24.01	0.0	0.000312
0.07	24.0	90.0	0.07	0.0003	35.18	23.93	0.0	0.000312
0.07	26.0	90.0	0.07	0.0003	35.22	23.77	0.0	0.000312
0.07	28.0	90.0	0.07	0.0003	35.24	23.74	0.0	0.000312
0.07	30.0	90.0	0.07	0.0003	35.24	23.74	0.0	0.000312
0.07	32.0	90.0	0.07	0.0003	35.24	23.77	0.0	0.000312

Kailua_avg8.txt

0.07	90.0	0.0003						
	33.0	0.07	90.0	35.23	23.79	0.0	0.000312	
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.055							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.51	45.29	2.181	-0.558	0.837	
60	105.3	0.07	15.04	30.48	3.231	-0.966	1.507	
80	105.0	0.07	20.99	20.51	4.79	-1.462	2.4	
100	104.4	0.07	28.24	13.8	7.107	-2.001	3.497	
120	103.5	0.07	36.87	9.289	10.55	-2.502	4.691	
140	102.2	0.07	47.36	6.251	15.67	-2.946	5.983	
160	100.5	0.07	60.39	4.207	23.27	-3.339	7.432	
180	98.42	0.07	76.72	2.831	34.57	-3.688	9.122	
200	95.83	0.07	97.28	1.905	51.35	-3.998	11.16	
220	92.68	0.07	123.2	1.282	76.3	-4.274	13.67	
222	92.33	0.07	126.1	1.232	79.38	-4.3	13.95	merging,
240	87.83	0.07	165.1	0.863	113.4	-4.576	17.6	
260	80.39	0.07	242.8	0.58	168.4	-4.901	23.67	
280	70.3	0.07	404.3	0.391	250.3	-5.253	33.2	axial vel
0.012								
297	59.25	0.07	638.1	0.279	350.5	-5.604	46.75	max dilution
reached								
300	57.02	0.07	690.9	0.263	371.9	-5.674	49.96	
317	42.19	0.07	1060.9	0.187	520.8	-6.131	75.9	trap level,
319	40.15	0.07	1113.7	0.18	541.8	-6.193	80.11	surface,
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of	181.09	m					
conc	dilutn	width	distnce	time				
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)	(m ^{0.67} /s ²)
0.17935	544.4	181.2	25.0	0.00202	0.0	21.2	0.07	3.00E-4
0.17959	543.4	182.7	30.0	0.0219	0.0	21.2	0.07	3.00E-4
0.17966	543.0	184.1	35.0	0.0417	0.0	21.2	0.07	3.00E-4
0.17966	542.7	185.6	40.0	0.0615	0.0	21.2	0.07	3.00E-4
0.17963	542.6	187.0	45.0	0.0814	0.0	21.2	0.07	3.00E-4
0.17959	542.4	188.4	50.0	0.101	0.0	21.2	0.07	3.00E-4
0.17954	542.3	189.8	55.0	0.121	0.0	21.2	0.07	3.00E-4
0.17948	542.3	191.1	60.0	0.141	0.0	21.2	0.07	3.00E-4
0.17942	542.2	192.5	65.0	0.161	0.0	21.2	0.07	3.00E-4
0.17936	542.2	193.9	70.0	0.181	0.0	21.2	0.07	3.00E-4
0.1793	542.1	195.2	75.0	0.2	0.0	21.2	0.07	3.00E-4
0.17923	542.1	196.6	80.0	0.22	0.0	21.2	0.07	3.00E-4
0.17915	542.1	197.9	85.0	0.24	0.0	21.2	0.07	3.00E-4
0.17907	542.1	199.2	90.0	0.26	0.0	21.2	0.07	3.00E-4
0.17898	542.1	200.6	95.0	0.28	0.0	21.2	0.07	3.00E-4
0.17888	542.2	201.9	100.0	0.3	0.0	21.2	0.07	3.00E-4
0.17877	542.3	203.2	105.0	0.319	0.0	21.2	0.07	3.00E-4
0.17865	542.4	204.5	110.0	0.339	0.0	21.2	0.07	3.00E-4
0.17852	542.6	205.7	115.0	0.359	0.0	21.2	0.07	3.00E-4
0.17837	542.8	207.0	120.0	0.379	0.0	21.2	0.07	3.00E-4
0.1782	543.1	208.3	125.0	0.399	0.0	21.2	0.07	3.00E-4
0.17802	543.5	209.6	130.0	0.419	0.0	21.2	0.07	3.00E-4
0.17782	543.8	210.8	135.0	0.439	0.0	21.2	0.07	3.00E-4
0.1776	544.3	212.1	140.0	0.458	0.0	21.2	0.07	3.00E-4
0.17736	544.8	213.3	145.0	0.478	0.0	21.2	0.07	3.00E-4
0.1771	545.4	214.5	150.0	0.498	0.0	21.2	0.07	3.00E-4
0.17683	546.0	215.7	155.0	0.518	0.0	21.2	0.07	3.00E-4
0.17654	546.6	217.0	160.0	0.538	0.0	21.2	0.07	3.00E-4

					Kailua_avg8.txt			
0.17624	547.3	218.2	165.0	0.558	0.0	21.2	0.07	3.00E-4
0.17593	548.1	219.4	170.0	0.577	0.0	21.2	0.07	3.00E-4
0.1756	548.9	220.6	175.0	0.597	0.0	21.2	0.07	3.00E-4
0.17526	549.7	221.8	180.0	0.617	0.0	21.2	0.07	3.00E-4
0.17491	550.6	223.0	185.0	0.637	0.0	21.2	0.07	3.00E-4
0.17454	551.6	224.1	190.0	0.657	0.0	21.2	0.07	3.00E-4
0.17416	552.5	225.3	195.0	0.677	0.0	21.2	0.07	3.00E-4
0.17378	553.5	226.5	200.0	0.696	0.0	21.2	0.07	3.00E-4
0.17338	554.6	227.6	205.0	0.716	0.0	21.2	0.07	3.00E-4
0.17297	555.7	228.8	210.0	0.736	0.0	21.2	0.07	3.00E-4
0.17255	556.8	229.9	215.0	0.756	0.0	21.2	0.07	3.00E-4
0.17213	558.0	231.1	220.0	0.776	0.0	21.2	0.07	3.00E-4
0.1717	559.1	232.2	225.0	0.796	0.0	21.2	0.07	3.00E-4
0.17126	560.4	233.3	230.0	0.816	0.0	21.2	0.07	3.00E-4
0.17081	561.6	234.5	235.0	0.835	0.0	21.2	0.07	3.00E-4
0.17036	562.9	235.6	240.0	0.855	0.0	21.2	0.07	3.00E-4
0.1699	564.2	236.7	245.0	0.875	0.0	21.2	0.07	3.00E-4
0.16942	565.6	237.8	250.0	0.895	0.0	21.2	0.07	3.00E-4
0.16895	566.9	238.9	255.0	0.915	0.0	21.2	0.07	3.00E-4
0.16848	568.3	240.0	260.0	0.935	0.0	21.2	0.07	3.00E-4
0.168	569.7	241.1	265.0	0.954	0.0	21.2	0.07	3.00E-4
0.16752	571.1	242.2	270.0	0.974	0.0	21.2	0.07	3.00E-4
0.16703	572.6	243.3	275.0	0.994	0.0	21.2	0.07	3.00E-4
0.16655	574.0	244.4	280.0	1.014	0.0	21.2	0.07	3.00E-4
0.16607	575.4	245.5	285.0	1.034	0.0	21.2	0.07	3.00E-4
0.16558	576.9	246.5	290.0	1.054	0.0	21.2	0.07	3.00E-4
0.16509	578.4	247.6	295.0	1.073	0.0	21.2	0.07	3.00E-4
0.1646	579.9	248.7	300.0	1.093	0.0	21.2	0.07	3.00E-4
0.1641	581.4	249.7	305.0	1.113	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 30; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal	Amb-tem	Amb-pol	Solar rad	
					deg	psu	C	kg/kg	s-1
0.07	0.0	90.0	0.07	0.0003	90.0	35.16	24.2	0.0	0.000312
0.07	2.0	90.0	0.07	0.0003	90.0	35.16	24.2	0.0	0.000312
0.07	4.0	90.0	0.07	0.0003	90.0	35.15	24.21	0.0	0.000312
0.07	6.0	90.0	0.07	0.0003	90.0	35.15	24.2	0.0	0.000312
0.07	8.0	90.0	0.07	0.0003	90.0	35.16	24.16	0.0	0.000312
0.07	10.0	90.0	0.07	0.0003	90.0	35.17	24.09	0.0	0.000312
0.07	12.0	90.0	0.07	0.0003	90.0	35.19	24.06	0.0	0.000312
0.07	14.0	90.0	0.07	0.0003	90.0	35.19	24.05	0.0	0.000312
0.07	16.0	90.0	0.07	0.0003	90.0	35.19	24.05	0.0	0.000312
0.07	18.0	90.0	0.07	0.0003	90.0	35.19	24.05	0.0	0.000312
0.07	20.0	90.0	0.07	0.0003	90.0	35.19	24.04	0.0	0.000312
0.07	22.0	90.0	0.07	0.0003	90.0	35.19	24.01	0.0	0.000312
0.07	24.0	90.0	0.07	0.0003	90.0	35.18	23.93	0.0	0.000312

Kailua_avg8.txt

0.07	26.0	0.07	90.0	35.22	23.77	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	35.24	23.74	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	35.24	23.74	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.24	23.77	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.23	23.79	0.0	0.000312
	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
15.25	28.04						
Froude number:	6.055						
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.181	-0.558	0.837;
60	105.3	0.07	15.04	30.48	3.231	-0.966	1.507;
80	105.0	0.07	20.99	20.51	4.79	-1.462	2.4;
100	104.4	0.07	28.24	13.8	7.107	-2.001	3.497;
120	103.5	0.07	36.87	9.289	10.55	-2.502	4.691;
140	102.2	0.07	47.36	6.251	15.67	-2.946	5.983;
160	100.5	0.07	60.39	4.207	23.27	-3.339	7.432;
180	98.42	0.07	76.72	2.831	34.57	-3.688	9.122;
200	95.83	0.07	97.28	1.905	51.35	-3.998	11.16;
220	92.68	0.07	123.2	1.282	76.3	-4.274	13.67;
222	92.33	0.07	126.1	1.232	79.38	-4.3	13.95; merging,
240	87.83	0.07	165.1	0.863	113.4	-4.576	17.6;
260	80.39	0.07	242.8	0.58	168.4	-4.901	23.67;
280	70.3	0.07	404.3	0.391	250.3	-5.253	33.2; axial vel
0.012							
297	59.25	0.07	638.1	0.279	350.5	-5.604	46.75; max dilution
reached							
300	57.02	0.07	690.9	0.263	371.9	-5.674	49.96;
317	42.19	0.07	1060.9	0.187	520.8	-6.131	75.9; trap level,
319	40.15	0.07	1113.7	0.18	541.8	-6.193	80.11; surface,
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						181.09
m	conc	dilutn	width	distnce	time		
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr) (m/s)(m ^{0.67} /s ²)
0.17935	544.4	181.2	25.0	0.00202	0.0	21.2	0.07 3.00E-4
0.17959	543.4	182.7	30.0	0.0219	0.0	21.2	0.07 3.00E-4
0.17966	543.0	184.1	35.0	0.0417	0.0	21.2	0.07 3.00E-4
0.17966	542.7	185.6	40.0	0.0615	0.0	21.2	0.07 3.00E-4
0.17963	542.6	187.0	45.0	0.0814	0.0	21.2	0.07 3.00E-4
0.17959	542.4	188.4	50.0	0.101	0.0	21.2	0.07 3.00E-4
0.17954	542.3	189.8	55.0	0.121	0.0	21.2	0.07 3.00E-4
0.17948	542.3	191.1	60.0	0.141	0.0	21.2	0.07 3.00E-4
0.17942	542.2	192.5	65.0	0.161	0.0	21.2	0.07 3.00E-4
0.17936	542.2	193.9	70.0	0.181	0.0	21.2	0.07 3.00E-4
0.1793	542.1	195.2	75.0	0.2	0.0	21.2	0.07 3.00E-4
0.17923	542.1	196.6	80.0	0.22	0.0	21.2	0.07 3.00E-4
0.17915	542.1	197.9	85.0	0.24	0.0	21.2	0.07 3.00E-4
0.17907	542.1	199.2	90.0	0.26	0.0	21.2	0.07 3.00E-4
0.17898	542.1	200.6	95.0	0.28	0.0	21.2	0.07 3.00E-4
0.17888	542.2	201.9	100.0	0.3	0.0	21.2	0.07 3.00E-4
0.17877	542.3	203.2	105.0	0.319	0.0	21.2	0.07 3.00E-4
0.17865	542.4	204.5	110.0	0.339	0.0	21.2	0.07 3.00E-4
0.17852	542.6	205.7	115.0	0.359	0.0	21.2	0.07 3.00E-4
0.17837	542.8	207.0	120.0	0.379	0.0	21.2	0.07 3.00E-4
0.1782	543.1	208.3	125.0	0.399	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt

0.17802	543.5	209.6	130.0	0.419	0.0	21.2	0.07	3.00E-4
0.17782	543.8	210.8	135.0	0.439	0.0	21.2	0.07	3.00E-4
0.1776	544.3	212.1	140.0	0.458	0.0	21.2	0.07	3.00E-4
0.17736	544.8	213.3	145.0	0.478	0.0	21.2	0.07	3.00E-4
0.1771	545.4	214.5	150.0	0.498	0.0	21.2	0.07	3.00E-4
0.17683	546.0	215.7	155.0	0.518	0.0	21.2	0.07	3.00E-4
0.17654	546.6	217.0	160.0	0.538	0.0	21.2	0.07	3.00E-4
0.17624	547.3	218.2	165.0	0.558	0.0	21.2	0.07	3.00E-4
0.17593	548.1	219.4	170.0	0.577	0.0	21.2	0.07	3.00E-4
0.1756	548.9	220.6	175.0	0.597	0.0	21.2	0.07	3.00E-4
0.17526	549.7	221.8	180.0	0.617	0.0	21.2	0.07	3.00E-4
0.17491	550.6	223.0	185.0	0.637	0.0	21.2	0.07	3.00E-4
0.17454	551.6	224.1	190.0	0.657	0.0	21.2	0.07	3.00E-4
0.17416	552.5	225.3	195.0	0.677	0.0	21.2	0.07	3.00E-4
0.17378	553.5	226.5	200.0	0.696	0.0	21.2	0.07	3.00E-4
0.17338	554.6	227.6	205.0	0.716	0.0	21.2	0.07	3.00E-4
0.17297	555.7	228.8	210.0	0.736	0.0	21.2	0.07	3.00E-4
0.17255	556.8	229.9	215.0	0.756	0.0	21.2	0.07	3.00E-4
0.17213	558.0	231.1	220.0	0.776	0.0	21.2	0.07	3.00E-4
0.1717	559.1	232.2	225.0	0.796	0.0	21.2	0.07	3.00E-4
0.17126	560.4	233.3	230.0	0.816	0.0	21.2	0.07	3.00E-4
0.17081	561.6	234.5	235.0	0.835	0.0	21.2	0.07	3.00E-4
0.17036	562.9	235.6	240.0	0.855	0.0	21.2	0.07	3.00E-4
0.1699	564.2	236.7	245.0	0.875	0.0	21.2	0.07	3.00E-4
0.16942	565.6	237.8	250.0	0.895	0.0	21.2	0.07	3.00E-4
0.16895	566.9	238.9	255.0	0.915	0.0	21.2	0.07	3.00E-4
0.16848	568.3	240.0	260.0	0.935	0.0	21.2	0.07	3.00E-4
0.168	569.7	241.1	265.0	0.954	0.0	21.2	0.07	3.00E-4
0.16752	571.1	242.2	270.0	0.974	0.0	21.2	0.07	3.00E-4
0.16703	572.6	243.3	275.0	0.994	0.0	21.2	0.07	3.00E-4
0.16655	574.0	244.4	280.0	1.014	0.0	21.2	0.07	3.00E-4
0.16607	575.4	245.5	285.0	1.034	0.0	21.2	0.07	3.00E-4
0.16558	576.9	246.5	290.0	1.054	0.0	21.2	0.07	3.00E-4
0.16509	578.4	247.6	295.0	1.073	0.0	21.2	0.07	3.00E-4
0.1646	579.9	248.7	300.0	1.093	0.0	21.2	0.07	3.00E-4
0.1641	581.4	249.7	305.0	1.113	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 31; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
m/s	Far-dir	Disprsn	deg	psu	c	kg/kg	s-1	
m/s	deg	m0.67/s2	deg					
0.07	0.0	0.07	90.0	35.1	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.1	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.1	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.1	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.09	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.1	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.09	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.09	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.1	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.09	25.79	0.0	0.000312	

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0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.09	25.75	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.07	25.74	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.09	25.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.05	25.72	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.06	25.72	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.08	25.71	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.08	25.7	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.06	25.69	0.0	0.000312	
0.07	90.0	0.0003						
Tt1-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.152							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;	
80	105.0	0.07	21.04	20.51	4.793	-1.464	2.403;	
100	104.4	0.07	28.34	13.8	7.112	-2.007	3.509;	
120	103.5	0.07	37.06	9.289	10.56	-2.514	4.716;	
140	102.2	0.07	47.66	6.251	15.68	-2.963	6.024;	
160	100.6	0.07	60.81	4.207	23.29	-3.361	7.491;	
180	98.52	0.07	77.3	2.831	34.59	-3.714	9.202;	
200	95.96	0.07	98.11	1.905	51.39	-4.029	11.26;	
220	92.86	0.07	124.5	1.282	76.35	-4.308	13.81;	
221	92.69	0.07	126.0	1.257	77.88	-4.321	13.95;	
240	88.02	0.07	168.1	0.863	113.4	-4.621	17.88;	
260	80.47	0.07	241.8	0.58	168.6	-4.957	24.15;	
280	68.79	0.07	349.6	0.391	250.5	-5.3	33.4;	
297	54.4	0.07	487.5	0.279	350.7	-5.589	44.49; axial vel	
0.0221	max dilution reached							
300	51.33	0.07	518.0	0.263	372.2	-5.64	46.85;	
320	25.29	0.07	775.1	0.177	553.0	-5.984	66.84; axial vel	
0.075								
323	20.37	0.07	823.4	0.167	586.9	-6.036	70.61; surface,	
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						173.72	
m	conc	dilutn	width	distnce	time			
	(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr) (m/s)(m ^{0.67} /s ²)	
0.16589	588.9	174.7	25.0	0.0135	0.0	21.2	0.07 3.00E-4	
0.16601	588.2	176.1	30.0	0.0333	0.0	21.2	0.07 3.00E-4	
0.16602	587.9	177.5	35.0	0.0532	0.0	21.2	0.07 3.00E-4	
0.16601	587.7	178.9	40.0	0.073	0.0	21.2	0.07 3.00E-4	
0.16597	587.5	180.3	45.0	0.0929	0.0	21.2	0.07 3.00E-4	
0.16593	587.4	181.7	50.0	0.113	0.0	21.2	0.07 3.00E-4	
0.16588	587.4	183.1	55.0	0.133	0.0	21.2	0.07 3.00E-4	
0.16583	587.3	184.4	60.0	0.152	0.0	21.2	0.07 3.00E-4	
0.16577	587.2	185.8	65.0	0.172	0.0	21.2	0.07 3.00E-4	
0.16571	587.2	187.1	70.0	0.192	0.0	21.2	0.07 3.00E-4	
0.16565	587.2	188.4	75.0	0.212	0.0	21.2	0.07 3.00E-4	
0.16558	587.2	189.7	80.0	0.232	0.0	21.2	0.07 3.00E-4	
0.1655	587.2	191.0	85.0	0.252	0.0	21.2	0.07 3.00E-4	
0.16542	587.2	192.3	90.0	0.271	0.0	21.2	0.07 3.00E-4	

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0.16533	587.3	193.6	95.0	0.291	0.0	21.2	0.07	3.00E-4
0.16523	587.4	194.9	100.0	0.311	0.0	21.2	0.07	3.00E-4
0.16512	587.5	196.2	105.0	0.331	0.0	21.2	0.07	3.00E-4
0.16499	587.7	197.5	110.0	0.351	0.0	21.2	0.07	3.00E-4
0.16485	588.0	198.7	115.0	0.371	0.0	21.2	0.07	3.00E-4
0.16469	588.3	200.0	120.0	0.39	0.0	21.2	0.07	3.00E-4
0.16451	588.7	201.2	125.0	0.41	0.0	21.2	0.07	3.00E-4
0.16432	589.1	202.4	130.0	0.43	0.0	21.2	0.07	3.00E-4
0.16411	589.6	203.7	135.0	0.45	0.0	21.2	0.07	3.00E-4
0.16389	590.2	204.9	140.0	0.47	0.0	21.2	0.07	3.00E-4
0.16363	590.9	206.1	145.0	0.49	0.0	21.2	0.07	3.00E-4
0.16338	591.5	207.3	150.0	0.51	0.0	21.2	0.07	3.00E-4
0.1631	592.3	208.5	155.0	0.529	0.0	21.2	0.07	3.00E-4
0.16282	593.1	209.7	160.0	0.549	0.0	21.2	0.07	3.00E-4
0.16251	594.0	210.9	165.0	0.569	0.0	21.2	0.07	3.00E-4
0.1622	594.9	212.1	170.0	0.589	0.0	21.2	0.07	3.00E-4
0.16187	595.8	213.2	175.0	0.609	0.0	21.2	0.07	3.00E-4
0.16153	596.9	214.4	180.0	0.629	0.0	21.2	0.07	3.00E-4
0.16118	597.9	215.6	185.0	0.648	0.0	21.2	0.07	3.00E-4
0.16082	599.0	216.7	190.0	0.668	0.0	21.2	0.07	3.00E-4
0.16045	600.2	217.9	195.0	0.688	0.0	21.2	0.07	3.00E-4
0.16007	601.4	219.0	200.0	0.708	0.0	21.2	0.07	3.00E-4
0.15967	602.6	220.1	205.0	0.728	0.0	21.2	0.07	3.00E-4
0.15927	603.9	221.3	210.0	0.748	0.0	21.2	0.07	3.00E-4
0.15887	605.2	222.4	215.0	0.767	0.0	21.2	0.07	3.00E-4
0.15846	606.5	223.5	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.15803	607.9	224.6	225.0	0.807	0.0	21.2	0.07	3.00E-4
0.15761	609.3	225.7	230.0	0.827	0.0	21.2	0.07	3.00E-4
0.15717	610.8	226.8	235.0	0.847	0.0	21.2	0.07	3.00E-4
0.15672	612.3	227.9	240.0	0.867	0.0	21.2	0.07	3.00E-4
0.15628	613.8	229.0	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.15583	615.3	230.1	250.0	0.906	0.0	21.2	0.07	3.00E-4
0.15538	616.9	231.2	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.15492	618.4	232.3	260.0	0.946	0.0	21.2	0.07	3.00E-4
0.15446	620.0	233.3	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.154	621.7	234.4	270.0	0.986	0.0	21.2	0.07	3.00E-4
0.15355	623.3	235.5	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.15309	624.9	236.5	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.15262	626.6	237.6	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.15216	628.2	238.6	290.0	1.065	0.0	21.2	0.07	3.00E-4
0.15169	629.9	239.7	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.15122	631.7	240.7	300.0	1.105	0.0	21.2	0.07	3.00E-4
0.15074	633.4	241.7	305.0	1.125	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 32; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir	Disprsn						s-1
m/s	m deg	m/s 0.67/s2	deg	psu	c	kg/kg		
0.07	0.0	0.07	90.0	35.1	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.1	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.1	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.1	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.09	25.79	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.1	25.79	0.0	0.000312	
	90.0	0.0003						

Kailua_avg8.txt

0.07	12.0	0.07	90.0	35.09	25.79	0.0	0.000312
	90.0	0.0003					
0.07	14.0	0.07	90.0	35.09	25.79	0.0	0.000312
	90.0	0.0003					
0.07	16.0	0.07	90.0	35.1	25.79	0.0	0.000312
	90.0	0.0003					
0.07	18.0	0.07	90.0	35.09	25.79	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	35.09	25.75	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	35.07	25.74	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	35.09	25.73	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	35.05	25.72	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	35.06	25.72	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	35.08	25.71	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.08	25.7	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.06	25.69	0.0	0.000312
	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
15.25	28.04						
Froude number:	6.152						
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;
80	105.0	0.07	21.04	20.51	4.793	-1.464	2.403;
100	104.4	0.07	28.34	13.8	7.112	-2.007	3.509;
120	103.5	0.07	37.06	9.289	10.56	-2.514	4.716;
140	102.2	0.07	47.66	6.251	15.68	-2.963	6.024;
160	100.6	0.07	60.81	4.207	23.29	-3.361	7.491;
180	98.52	0.07	77.3	2.831	34.59	-3.714	9.202;
200	95.96	0.07	98.11	1.905	51.39	-4.029	11.26;
220	92.86	0.07	124.5	1.282	76.35	-4.308	13.81;
221	92.69	0.07	126.0	1.257	77.88	-4.321	13.95; merging,
240	88.02	0.07	168.1	0.863	113.4	-4.621	17.88;
260	80.47	0.07	241.8	0.58	168.6	-4.957	24.15;
280	68.79	0.07	349.6	0.391	250.5	-5.3	33.4;
297	54.4	0.07	487.5	0.279	350.7	-5.589	44.49; axial vel
0.0221	max dilution reached						
300	51.33	0.07	518.0	0.263	372.2	-5.64	46.85;
320	25.29	0.07	775.1	0.177	553.0	-5.984	66.84; axial vel
0.075	323	20.37	0.07	823.4	0.167	586.9	-6.036
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of	173.72	m			70.61; surface,	

conc	dilutn	width	distnce	time			
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16589	588.9	174.7	25.0	0.0135	0.0	21.2	0.07 3.00E-4
0.16601	588.2	176.1	30.0	0.0333	0.0	21.2	0.07 3.00E-4
0.16602	587.9	177.5	35.0	0.0532	0.0	21.2	0.07 3.00E-4
0.16601	587.7	178.9	40.0	0.073	0.0	21.2	0.07 3.00E-4
0.16597	587.5	180.3	45.0	0.0929	0.0	21.2	0.07 3.00E-4
0.16593	587.4	181.7	50.0	0.113	0.0	21.2	0.07 3.00E-4
0.16588	587.4	183.1	55.0	0.133	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt

0.16583	587.3	184.4	60.0	0.152	0.0	21.2	0.07	3.00E-4
0.16577	587.2	185.8	65.0	0.172	0.0	21.2	0.07	3.00E-4
0.16571	587.2	187.1	70.0	0.192	0.0	21.2	0.07	3.00E-4
0.16565	587.2	188.4	75.0	0.212	0.0	21.2	0.07	3.00E-4
0.16558	587.2	189.7	80.0	0.232	0.0	21.2	0.07	3.00E-4
0.1655	587.2	191.0	85.0	0.252	0.0	21.2	0.07	3.00E-4
0.16542	587.2	192.3	90.0	0.271	0.0	21.2	0.07	3.00E-4
0.16533	587.3	193.6	95.0	0.291	0.0	21.2	0.07	3.00E-4
0.16523	587.4	194.9	100.0	0.311	0.0	21.2	0.07	3.00E-4
0.16512	587.5	196.2	105.0	0.331	0.0	21.2	0.07	3.00E-4
0.16499	587.7	197.5	110.0	0.351	0.0	21.2	0.07	3.00E-4
0.16485	588.0	198.7	115.0	0.371	0.0	21.2	0.07	3.00E-4
0.16469	588.3	200.0	120.0	0.39	0.0	21.2	0.07	3.00E-4
0.16451	588.7	201.2	125.0	0.41	0.0	21.2	0.07	3.00E-4
0.16432	589.1	202.4	130.0	0.43	0.0	21.2	0.07	3.00E-4
0.16411	589.6	203.7	135.0	0.45	0.0	21.2	0.07	3.00E-4
0.16389	590.2	204.9	140.0	0.47	0.0	21.2	0.07	3.00E-4
0.16363	590.9	206.1	145.0	0.49	0.0	21.2	0.07	3.00E-4
0.16338	591.5	207.3	150.0	0.51	0.0	21.2	0.07	3.00E-4
0.1631	592.3	208.5	155.0	0.529	0.0	21.2	0.07	3.00E-4
0.16282	593.1	209.7	160.0	0.549	0.0	21.2	0.07	3.00E-4
0.16251	594.0	210.9	165.0	0.569	0.0	21.2	0.07	3.00E-4
0.1622	594.9	212.1	170.0	0.589	0.0	21.2	0.07	3.00E-4
0.16187	595.8	213.2	175.0	0.609	0.0	21.2	0.07	3.00E-4
0.16153	596.9	214.4	180.0	0.629	0.0	21.2	0.07	3.00E-4
0.16118	597.9	215.6	185.0	0.648	0.0	21.2	0.07	3.00E-4
0.16082	599.0	216.7	190.0	0.668	0.0	21.2	0.07	3.00E-4
0.16045	600.2	217.9	195.0	0.688	0.0	21.2	0.07	3.00E-4
0.16007	601.4	219.0	200.0	0.708	0.0	21.2	0.07	3.00E-4
0.15967	602.6	220.1	205.0	0.728	0.0	21.2	0.07	3.00E-4
0.15927	603.9	221.3	210.0	0.748	0.0	21.2	0.07	3.00E-4
0.15887	605.2	222.4	215.0	0.767	0.0	21.2	0.07	3.00E-4
0.15846	606.5	223.5	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.15803	607.9	224.6	225.0	0.807	0.0	21.2	0.07	3.00E-4
0.15761	609.3	225.7	230.0	0.827	0.0	21.2	0.07	3.00E-4
0.15717	610.8	226.8	235.0	0.847	0.0	21.2	0.07	3.00E-4
0.15672	612.3	227.9	240.0	0.867	0.0	21.2	0.07	3.00E-4
0.15628	613.8	229.0	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.15583	615.3	230.1	250.0	0.906	0.0	21.2	0.07	3.00E-4
0.15538	616.9	231.2	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.15492	618.4	232.3	260.0	0.946	0.0	21.2	0.07	3.00E-4
0.15446	620.0	233.3	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.154	621.7	234.4	270.0	0.986	0.0	21.2	0.07	3.00E-4
0.15355	623.3	235.5	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.15309	624.9	236.5	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.15262	626.6	237.6	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.15216	628.2	238.6	290.0	1.065	0.0	21.2	0.07	3.00E-4
0.15169	629.9	239.7	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.15122	631.7	240.7	300.0	1.105	0.0	21.2	0.07	3.00E-4
0.15074	633.4	241.7	305.0	1.125	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 33; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir	Disprsn						s-1
m/s	m	m/s	deg	psu	C	kg/kg		
0.07	0.0	0.07	90.0	35.39	26.04	0.0	0.000312	
	2.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	4.0	0.07	90.0	35.39	26.04	0.0	0.000312	

Kailua_avg8.txt

0.07	90.0	0.0003						
0.07	6.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	8.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	10.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.39	26.04	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.39	26.03	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.39	26.03	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.38	26.02	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.37	25.96	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.37	25.91	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.132							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;	
80	105.0	0.07	21.03	20.51	4.792	-1.464	2.402;	
100	104.4	0.07	28.32	13.8	7.111	-2.006	3.506;	
120	103.5	0.07	37.03	9.289	10.56	-2.511	4.711;	
140	102.2	0.07	47.61	6.251	15.68	-2.96	6.016;	
160	100.6	0.07	60.75	4.207	23.28	-3.357	7.481;	
180	98.5	0.07	77.25	2.831	34.59	-3.71	9.189;	
200	95.94	0.07	98.03	1.905	51.38	-4.024	11.25;	
220	92.83	0.07	124.1	1.282	76.34	-4.303	13.79;	
221	92.65	0.07	125.6	1.257	77.87	-4.316	13.94; merging,	
240	87.95	0.07	166.3	0.863	113.4	-4.613	17.82;	
260	80.34	0.07	237.7	0.58	168.5	-4.942	23.95;	
280	68.78	0.07	349.4	0.391	250.4	-5.278	33.05;	
297	54.42	0.07	488.0	0.279	350.7	-5.568	44.16; axial vel	
0.0221	max dilution reached							
300	51.33	0.07	517.8	0.263	372.1	-5.619	46.53;	
320	25.12	0.07	769.3	0.177	552.9	-5.962	66.47; axial vel	
0.0754								
323	20.2	0.07	816.4	0.167	586.8	-6.014	70.19; surface,	
Const Eddy Diffusivity.	Farfield dispersion							
m								
conc	dilutn	width	distnce	time				
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)	

Kailua_avg8.txt

	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
Far-spd	Far-dir	Disprsn					
0.1659	588.8	174.6	25.0	0.014	0.0	21.2	0.07 3.00E-4
0.16601	588.1	176.0	30.0	0.0338	0.0	21.2	0.07 3.00E-4
0.16603	587.8	177.4	35.0	0.0537	0.0	21.2	0.07 3.00E-4
0.16601	587.6	178.8	40.0	0.0735	0.0	21.2	0.07 3.00E-4
0.16598	587.5	180.2	45.0	0.0934	0.0	21.2	0.07 3.00E-4
0.16593	587.4	181.5	50.0	0.113	0.0	21.2	0.07 3.00E-4
0.16588	587.3	182.9	55.0	0.133	0.0	21.2	0.07 3.00E-4
0.16583	587.2	184.3	60.0	0.153	0.0	21.2	0.07 3.00E-4
0.16577	587.2	185.6	65.0	0.173	0.0	21.2	0.07 3.00E-4
0.16571	587.1	186.9	70.0	0.193	0.0	21.2	0.07 3.00E-4
0.16565	587.1	188.3	75.0	0.212	0.0	21.2	0.07 3.00E-4
0.16558	587.1	189.6	80.0	0.232	0.0	21.2	0.07 3.00E-4
0.1655	587.1	190.9	85.0	0.252	0.0	21.2	0.07 3.00E-4
0.16542	587.1	192.2	90.0	0.272	0.0	21.2	0.07 3.00E-4
0.16533	587.2	193.5	95.0	0.292	0.0	21.2	0.07 3.00E-4
0.16523	587.3	194.8	100.0	0.312	0.0	21.2	0.07 3.00E-4
0.16512	587.4	196.0	105.0	0.331	0.0	21.2	0.07 3.00E-4
0.16499	587.7	197.3	110.0	0.351	0.0	21.2	0.07 3.00E-4
0.16484	587.9	198.6	115.0	0.371	0.0	21.2	0.07 3.00E-4
0.16468	588.2	199.8	120.0	0.391	0.0	21.2	0.07 3.00E-4
0.16451	588.6	201.1	125.0	0.411	0.0	21.2	0.07 3.00E-4
0.16432	589.1	202.3	130.0	0.431	0.0	21.2	0.07 3.00E-4
0.16411	589.6	203.5	135.0	0.451	0.0	21.2	0.07 3.00E-4
0.16388	590.1	204.7	140.0	0.47	0.0	21.2	0.07 3.00E-4
0.16363	590.8	206.0	145.0	0.49	0.0	21.2	0.07 3.00E-4
0.16337	591.5	207.2	150.0	0.51	0.0	21.2	0.07 3.00E-4
0.16309	592.3	208.4	155.0	0.53	0.0	21.2	0.07 3.00E-4
0.16281	593.1	209.5	160.0	0.55	0.0	21.2	0.07 3.00E-4
0.1625	593.9	210.7	165.0	0.57	0.0	21.2	0.07 3.00E-4
0.16219	594.8	211.9	170.0	0.589	0.0	21.2	0.07 3.00E-4
0.16186	595.8	213.1	175.0	0.609	0.0	21.2	0.07 3.00E-4
0.16152	596.8	214.2	180.0	0.629	0.0	21.2	0.07 3.00E-4
0.16116	597.9	215.4	185.0	0.649	0.0	21.2	0.07 3.00E-4
0.16081	599.0	216.6	190.0	0.669	0.0	21.2	0.07 3.00E-4
0.16043	600.1	217.7	195.0	0.689	0.0	21.2	0.07 3.00E-4
0.16005	601.3	218.8	200.0	0.708	0.0	21.2	0.07 3.00E-4
0.15966	602.6	220.0	205.0	0.728	0.0	21.2	0.07 3.00E-4
0.15925	603.9	221.1	210.0	0.748	0.0	21.2	0.07 3.00E-4
0.15885	605.2	222.2	215.0	0.768	0.0	21.2	0.07 3.00E-4
0.15844	606.5	223.3	220.0	0.788	0.0	21.2	0.07 3.00E-4
0.15802	607.9	224.5	225.0	0.808	0.0	21.2	0.07 3.00E-4
0.15759	609.3	225.6	230.0	0.827	0.0	21.2	0.07 3.00E-4
0.15715	610.8	226.7	235.0	0.847	0.0	21.2	0.07 3.00E-4
0.1567	612.3	227.8	240.0	0.867	0.0	21.2	0.07 3.00E-4
0.15626	613.8	228.9	245.0	0.887	0.0	21.2	0.07 3.00E-4
0.15581	615.3	229.9	250.0	0.907	0.0	21.2	0.07 3.00E-4
0.15536	616.9	231.0	255.0	0.927	0.0	21.2	0.07 3.00E-4
0.1549	618.5	232.1	260.0	0.947	0.0	21.2	0.07 3.00E-4
0.15444	620.1	233.2	265.0	0.966	0.0	21.2	0.07 3.00E-4
0.15398	621.7	234.2	270.0	0.986	0.0	21.2	0.07 3.00E-4
0.15353	623.3	235.3	275.0	1.006	0.0	21.2	0.07 3.00E-4
0.15307	624.9	236.3	280.0	1.026	0.0	21.2	0.07 3.00E-4
0.1526	626.6	237.4	285.0	1.046	0.0	21.2	0.07 3.00E-4
0.15213	628.3	238.4	290.0	1.066	0.0	21.2	0.07 3.00E-4
0.15166	630.0	239.5	295.0	1.085	0.0	21.2	0.07 3.00E-4
0.15119	631.7	240.5	300.0	1.105	0.0	21.2	0.07 3.00E-4
0.15072	633.4	241.5	305.0	1.125	0.0	21.2	0.07 3.00E-4

count: 57

/ Windows UM3.

Case 34; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
Far-spd	Far-dir	Disprsn				

Kailua_avg8.txt								
m/s	m deg	m/s m0.67/s2	deg	psu	c	kg/kg	s-1	
0.07	0.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	2.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	4.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	6.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	8.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	10.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	12.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	14.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	16.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	18.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	20.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	22.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	24.0 90.0	0.07 0.0003	90.0	35.39	26.04	0.0	0.000312	
0.07	26.0 90.0	0.07 0.0003	90.0	35.39	26.03	0.0	0.000312	
0.07	28.0 90.0	0.07 0.0003	90.0	35.39	26.03	0.0	0.000312	
0.07	30.0 90.0	0.07 0.0003	90.0	35.38	26.02	0.0	0.000312	
0.07	32.0 90.0	0.07 0.0003	90.0	35.37	25.96	0.0	0.000312	
0.07	33.0 90.0	0.07 0.0003	90.0	35.37	25.91	0.0	0.000312	
0.07	35.0 90.0	0.07 0.0003						
Ttl-flo Temp		(MGD)	(C)					
	15.25	28.04						
Froude number: 6.132								
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;	
80	105.0	0.07	21.03	20.51	4.792	-1.464	2.402;	
100	104.4	0.07	28.32	13.8	7.111	-2.006	3.506;	
120	103.5	0.07	37.03	9.289	10.56	-2.511	4.711;	
140	102.2	0.07	47.61	6.251	15.68	-2.96	6.016;	
160	100.6	0.07	60.75	4.207	23.28	-3.357	7.481;	
180	98.5	0.07	77.25	2.831	34.59	-3.71	9.189;	
200	95.94	0.07	98.03	1.905	51.38	-4.024	11.25;	
220	92.83	0.07	124.1	1.282	76.34	-4.303	13.79;	
221	92.65	0.07	125.6	1.257	77.87	-4.316	13.94;	merging,
240	87.95	0.07	166.3	0.863	113.4	-4.613	17.82;	
260	80.34	0.07	237.7	0.58	168.5	-4.942	23.95;	
280	68.78	0.07	349.4	0.391	250.4	-5.278	33.05;	
297	54.42	0.07	488.0	0.279	350.7	-5.568	44.16;	axial vel
0.0221 max dilution reached								
300	51.33	0.07	517.8	0.263	372.1	-5.619	46.53;	

					Kailua_avg8.txt			
320	25.12	0.07	769.3	0.177	552.9	-5.962	66.47; axial vel	
0.0754								
323	20.2	0.07	816.4	0.167	586.8	-6.014	70.19; surface,	
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of							173.54
m								
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)	(m0.67/s2)
(ppm)		(m)	(m)	(hrs)				
0.1659	588.8	174.6	25.0	0.014	0.0	21.2	0.07	3.00E-4
0.16601	588.1	176.0	30.0	0.0338	0.0	21.2	0.07	3.00E-4
0.16603	587.8	177.4	35.0	0.0537	0.0	21.2	0.07	3.00E-4
0.16601	587.6	178.8	40.0	0.0735	0.0	21.2	0.07	3.00E-4
0.16598	587.5	180.2	45.0	0.0934	0.0	21.2	0.07	3.00E-4
0.16593	587.4	181.5	50.0	0.113	0.0	21.2	0.07	3.00E-4
0.16588	587.3	182.9	55.0	0.133	0.0	21.2	0.07	3.00E-4
0.16583	587.2	184.3	60.0	0.153	0.0	21.2	0.07	3.00E-4
0.16577	587.2	185.6	65.0	0.173	0.0	21.2	0.07	3.00E-4
0.16571	587.1	186.9	70.0	0.193	0.0	21.2	0.07	3.00E-4
0.16565	587.1	188.3	75.0	0.212	0.0	21.2	0.07	3.00E-4
0.16558	587.1	189.6	80.0	0.232	0.0	21.2	0.07	3.00E-4
0.1655	587.1	190.9	85.0	0.252	0.0	21.2	0.07	3.00E-4
0.16542	587.1	192.2	90.0	0.272	0.0	21.2	0.07	3.00E-4
0.16533	587.2	193.5	95.0	0.292	0.0	21.2	0.07	3.00E-4
0.16523	587.3	194.8	100.0	0.312	0.0	21.2	0.07	3.00E-4
0.16512	587.4	196.0	105.0	0.331	0.0	21.2	0.07	3.00E-4
0.16499	587.7	197.3	110.0	0.351	0.0	21.2	0.07	3.00E-4
0.16484	587.9	198.6	115.0	0.371	0.0	21.2	0.07	3.00E-4
0.16468	588.2	199.8	120.0	0.391	0.0	21.2	0.07	3.00E-4
0.16451	588.6	201.1	125.0	0.411	0.0	21.2	0.07	3.00E-4
0.16432	589.1	202.3	130.0	0.431	0.0	21.2	0.07	3.00E-4
0.16411	589.6	203.5	135.0	0.451	0.0	21.2	0.07	3.00E-4
0.16388	590.1	204.7	140.0	0.47	0.0	21.2	0.07	3.00E-4
0.16363	590.8	206.0	145.0	0.49	0.0	21.2	0.07	3.00E-4
0.16337	591.5	207.2	150.0	0.51	0.0	21.2	0.07	3.00E-4
0.16309	592.3	208.4	155.0	0.53	0.0	21.2	0.07	3.00E-4
0.16281	593.1	209.5	160.0	0.55	0.0	21.2	0.07	3.00E-4
0.1625	593.9	210.7	165.0	0.57	0.0	21.2	0.07	3.00E-4
0.16219	594.8	211.9	170.0	0.589	0.0	21.2	0.07	3.00E-4
0.16186	595.8	213.1	175.0	0.609	0.0	21.2	0.07	3.00E-4
0.16152	596.8	214.2	180.0	0.629	0.0	21.2	0.07	3.00E-4
0.16116	597.9	215.4	185.0	0.649	0.0	21.2	0.07	3.00E-4
0.16081	599.0	216.6	190.0	0.669	0.0	21.2	0.07	3.00E-4
0.16043	600.1	217.7	195.0	0.689	0.0	21.2	0.07	3.00E-4
0.16005	601.3	218.8	200.0	0.708	0.0	21.2	0.07	3.00E-4
0.15966	602.6	220.0	205.0	0.728	0.0	21.2	0.07	3.00E-4
0.15925	603.9	221.1	210.0	0.748	0.0	21.2	0.07	3.00E-4
0.15885	605.2	222.2	215.0	0.768	0.0	21.2	0.07	3.00E-4
0.15844	606.5	223.3	220.0	0.788	0.0	21.2	0.07	3.00E-4
0.15802	607.9	224.5	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.15759	609.3	225.6	230.0	0.827	0.0	21.2	0.07	3.00E-4
0.15715	610.8	226.7	235.0	0.847	0.0	21.2	0.07	3.00E-4
0.1567	612.3	227.8	240.0	0.867	0.0	21.2	0.07	3.00E-4
0.15626	613.8	228.9	245.0	0.887	0.0	21.2	0.07	3.00E-4
0.15581	615.3	229.9	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.15536	616.9	231.0	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.1549	618.5	232.1	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.15444	620.1	233.2	265.0	0.966	0.0	21.2	0.07	3.00E-4
0.15398	621.7	234.2	270.0	0.986	0.0	21.2	0.07	3.00E-4
0.15353	623.3	235.3	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.15307	624.9	236.3	280.0	1.026	0.0	21.2	0.07	3.00E-4
0.1526	626.6	237.4	285.0	1.046	0.0	21.2	0.07	3.00E-4
0.15213	628.3	238.4	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.15166	630.0	239.5	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.15119	631.7	240.5	300.0	1.105	0.0	21.2	0.07	3.00E-4

Kailua_avg8.txt

0.15072 633.4 241.5 305.0 1.125 0.0 21.2 0.07 3.00E-4
 count: 57
 / Windows UM3.
 Case 35; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
m/s	Far-dir	m/s	Disprsn	psu	c	kg/kg	s-1
	m	deg	m0.67/s2				
0.07	0.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	2.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	4.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	6.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	8.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	10.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	12.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	14.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	16.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	18.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	20.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	22.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	24.0	90.0	0.07	35.39	26.04	0.0	0.000312
0.07	26.0	90.0	0.07	35.39	26.03	0.0	0.000312
0.07	28.0	90.0	0.07	35.39	26.03	0.0	0.000312
0.07	30.0	90.0	0.07	35.38	26.02	0.0	0.000312
0.07	32.0	90.0	0.07	35.37	25.96	0.0	0.000312
0.07	33.0	90.0	0.07	35.37	25.91	0.0	0.000312
0.07	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
15.25	28.04						
Froude number:	6.132						
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	()	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508
80	105.0	0.07	21.03	20.51	4.792	-1.464	2.402
100	104.4	0.07	28.32	13.8	7.111	-2.006	3.506
120	103.5	0.07	37.03	9.289	10.56	-2.511	4.711
140	102.2	0.07	47.61	6.251	15.68	-2.96	6.016
160	100.6	0.07	60.75	4.207	23.28	-3.357	7.481
180	98.5	0.07	77.25	2.831	34.59	-3.71	9.189
200	95.94	0.07	98.03	1.905	51.38	-4.024	11.25
220	92.83	0.07	124.1	1.282	76.34	-4.303	13.79

221 92.65 0.07 125.6 1.257 77.87 -4.316 13.94; merging,
 240 87.95 0.07 166.3 0.863 113.4 -4.613 17.82;
 260 80.34 0.07 237.7 0.58 168.5 -4.942 23.95;
 280 68.78 0.07 349.4 0.391 250.4 -5.278 33.05;
 297 54.42 0.07 488.0 0.279 350.7 -5.568 44.16; axial vel
 0.0221 max dilution reached
 300 51.33 0.07 517.8 0.263 372.1 -5.619 46.53;
 320 25.12 0.07 769.3 0.177 552.9 -5.962 66.47; axial vel
 0.0754
 323 20.2 0.07 816.4 0.167 586.8 -6.014 70.19; surface,
 Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 173.54
 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s) (m ^{0.67} /s ²)
0.1659	588.8	174.6	25.0	0.014	0.0	21.2	0.07 3.00E-4
0.16601	588.1	176.0	30.0	0.0338	0.0	21.2	0.07 3.00E-4
0.16603	587.8	177.4	35.0	0.0537	0.0	21.2	0.07 3.00E-4
0.16601	587.6	178.8	40.0	0.0735	0.0	21.2	0.07 3.00E-4
0.16598	587.5	180.2	45.0	0.0934	0.0	21.2	0.07 3.00E-4
0.16593	587.4	181.5	50.0	0.113	0.0	21.2	0.07 3.00E-4
0.16588	587.3	182.9	55.0	0.133	0.0	21.2	0.07 3.00E-4
0.16583	587.2	184.3	60.0	0.153	0.0	21.2	0.07 3.00E-4
0.16577	587.2	185.6	65.0	0.173	0.0	21.2	0.07 3.00E-4
0.16571	587.1	186.9	70.0	0.193	0.0	21.2	0.07 3.00E-4
0.16565	587.1	188.3	75.0	0.212	0.0	21.2	0.07 3.00E-4
0.16558	587.1	189.6	80.0	0.232	0.0	21.2	0.07 3.00E-4
0.1655	587.1	190.9	85.0	0.252	0.0	21.2	0.07 3.00E-4
0.16542	587.1	192.2	90.0	0.272	0.0	21.2	0.07 3.00E-4
0.16533	587.2	193.5	95.0	0.292	0.0	21.2	0.07 3.00E-4
0.16523	587.3	194.8	100.0	0.312	0.0	21.2	0.07 3.00E-4
0.16512	587.4	196.0	105.0	0.331	0.0	21.2	0.07 3.00E-4
0.16499	587.7	197.3	110.0	0.351	0.0	21.2	0.07 3.00E-4
0.16484	587.9	198.6	115.0	0.371	0.0	21.2	0.07 3.00E-4
0.16468	588.2	199.8	120.0	0.391	0.0	21.2	0.07 3.00E-4
0.16451	588.6	201.1	125.0	0.411	0.0	21.2	0.07 3.00E-4
0.16432	589.1	202.3	130.0	0.431	0.0	21.2	0.07 3.00E-4
0.16411	589.6	203.5	135.0	0.451	0.0	21.2	0.07 3.00E-4
0.16388	590.1	204.7	140.0	0.47	0.0	21.2	0.07 3.00E-4
0.16363	590.8	206.0	145.0	0.49	0.0	21.2	0.07 3.00E-4
0.16337	591.5	207.2	150.0	0.51	0.0	21.2	0.07 3.00E-4
0.16309	592.3	208.4	155.0	0.53	0.0	21.2	0.07 3.00E-4
0.16281	593.1	209.5	160.0	0.55	0.0	21.2	0.07 3.00E-4
0.1625	593.9	210.7	165.0	0.57	0.0	21.2	0.07 3.00E-4
0.16219	594.8	211.9	170.0	0.589	0.0	21.2	0.07 3.00E-4
0.16186	595.8	213.1	175.0	0.609	0.0	21.2	0.07 3.00E-4
0.16152	596.8	214.2	180.0	0.629	0.0	21.2	0.07 3.00E-4
0.16116	597.9	215.4	185.0	0.649	0.0	21.2	0.07 3.00E-4
0.16081	599.0	216.6	190.0	0.669	0.0	21.2	0.07 3.00E-4
0.16043	600.1	217.7	195.0	0.689	0.0	21.2	0.07 3.00E-4
0.16005	601.3	218.8	200.0	0.708	0.0	21.2	0.07 3.00E-4
0.15966	602.6	220.0	205.0	0.728	0.0	21.2	0.07 3.00E-4
0.15925	603.9	221.1	210.0	0.748	0.0	21.2	0.07 3.00E-4
0.15885	605.2	222.2	215.0	0.768	0.0	21.2	0.07 3.00E-4
0.15844	606.5	223.3	220.0	0.788	0.0	21.2	0.07 3.00E-4
0.15802	607.9	224.5	225.0	0.808	0.0	21.2	0.07 3.00E-4
0.15759	609.3	225.6	230.0	0.827	0.0	21.2	0.07 3.00E-4
0.15715	610.8	226.7	235.0	0.847	0.0	21.2	0.07 3.00E-4
0.1567	612.3	227.8	240.0	0.867	0.0	21.2	0.07 3.00E-4
0.15626	613.8	228.9	245.0	0.887	0.0	21.2	0.07 3.00E-4
0.15581	615.3	229.9	250.0	0.907	0.0	21.2	0.07 3.00E-4
0.15536	616.9	231.0	255.0	0.927	0.0	21.2	0.07 3.00E-4
0.1549	618.5	232.1	260.0	0.947	0.0	21.2	0.07 3.00E-4
0.15444	620.1	233.2	265.0	0.966	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt								
0.15398	621.7	234.2	270.0	0.986	0.0	21.2	0.07	3.00E-4
0.15353	623.3	235.3	275.0	1.006	0.0	21.2	0.07	3.00E-4
0.15307	624.9	236.3	280.0	1.026	0.0	21.2	0.07	3.00E-4
0.1526	626.6	237.4	285.0	1.046	0.0	21.2	0.07	3.00E-4
0.15213	628.3	238.4	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.15166	630.0	239.5	295.0	1.085	0.0	21.2	0.07	3.00E-4
0.15119	631.7	240.5	300.0	1.105	0.0	21.2	0.07	3.00E-4
0.15072	633.4	241.5	305.0	1.125	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 36; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
m/s	Far-dir	Disprsn		psu	c	kg/kg	s-1
m/s	deg	m/s ^{0.67} /s ²	deg				
0.07	0.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	2.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	4.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	6.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	8.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	10.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	12.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	14.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	16.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	18.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	20.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	22.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	24.0	0.07	90.0	35.39	26.04	0.0	0.000312
0.07	90.0	0.0003					
0.07	26.0	0.07	90.0	35.39	26.03	0.0	0.000312
0.07	90.0	0.0003					
0.07	28.0	0.07	90.0	35.39	26.03	0.0	0.000312
0.07	90.0	0.0003					
0.07	30.0	0.07	90.0	35.38	26.02	0.0	0.000312
0.07	90.0	0.0003					
0.07	32.0	0.07	90.0	35.37	25.96	0.0	0.000312
0.07	90.0	0.0003					
0.07	33.0	0.07	90.0	35.37	25.91	0.0	0.000312
0.07	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
15.25	28.04						

Froude number: 6.132

Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	()	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508
80	105.0	0.07	21.03	20.51	4.792	-1.464	2.402

Kailua_avg8.txt

100	104.4	0.07	28.32	13.8	7.111	-2.006	3.506;
120	103.5	0.07	37.03	9.289	10.56	-2.511	4.711;
140	102.2	0.07	47.61	6.251	15.68	-2.96	6.016;
160	100.6	0.07	60.75	4.207	23.28	-3.357	7.481;
180	98.5	0.07	77.25	2.831	34.59	-3.71	9.189;
200	95.94	0.07	98.03	1.905	51.38	-4.024	11.25;
220	92.83	0.07	124.1	1.282	76.34	-4.303	13.79;
221	92.65	0.07	125.6	1.257	77.87	-4.316	13.94; merging,
240	87.95	0.07	166.3	0.863	113.4	-4.613	17.82;
260	80.34	0.07	237.7	0.58	168.5	-4.942	23.95;
280	68.78	0.07	349.4	0.391	250.4	-5.278	33.05;
297	54.42	0.07	488.0	0.279	350.7	-5.568	44.16; axial vel
0.0221 max dilution reached							
300	51.33	0.07	517.8	0.263	372.1	-5.619	46.53;
320	25.12	0.07	769.3	0.177	552.9	-5.962	66.47; axial vel
0.0754							
323	20.2	0.07	816.4	0.167	586.8	-6.014	70.19; surface,
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 173.54 m							

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.1659	588.8	174.6	25.0	0.014	0.0	21.2	0.07 3.00E-4
0.16601	588.1	176.0	30.0	0.0338	0.0	21.2	0.07 3.00E-4
0.16603	587.8	177.4	35.0	0.0537	0.0	21.2	0.07 3.00E-4
0.16601	587.6	178.8	40.0	0.0735	0.0	21.2	0.07 3.00E-4
0.16598	587.5	180.2	45.0	0.0934	0.0	21.2	0.07 3.00E-4
0.16593	587.4	181.5	50.0	0.113	0.0	21.2	0.07 3.00E-4
0.16588	587.3	182.9	55.0	0.133	0.0	21.2	0.07 3.00E-4
0.16583	587.2	184.3	60.0	0.153	0.0	21.2	0.07 3.00E-4
0.16577	587.2	185.6	65.0	0.173	0.0	21.2	0.07 3.00E-4
0.16571	587.1	186.9	70.0	0.193	0.0	21.2	0.07 3.00E-4
0.16565	587.1	188.3	75.0	0.212	0.0	21.2	0.07 3.00E-4
0.16558	587.1	189.6	80.0	0.232	0.0	21.2	0.07 3.00E-4
0.1655	587.1	190.9	85.0	0.252	0.0	21.2	0.07 3.00E-4
0.16542	587.1	192.2	90.0	0.272	0.0	21.2	0.07 3.00E-4
0.16533	587.2	193.5	95.0	0.292	0.0	21.2	0.07 3.00E-4
0.16523	587.3	194.8	100.0	0.312	0.0	21.2	0.07 3.00E-4
0.16512	587.4	196.0	105.0	0.331	0.0	21.2	0.07 3.00E-4
0.16499	587.7	197.3	110.0	0.351	0.0	21.2	0.07 3.00E-4
0.16484	587.9	198.6	115.0	0.371	0.0	21.2	0.07 3.00E-4
0.16468	588.2	199.8	120.0	0.391	0.0	21.2	0.07 3.00E-4
0.16451	588.6	201.1	125.0	0.411	0.0	21.2	0.07 3.00E-4
0.16432	589.1	202.3	130.0	0.431	0.0	21.2	0.07 3.00E-4
0.16411	589.6	203.5	135.0	0.451	0.0	21.2	0.07 3.00E-4
0.16388	590.1	204.7	140.0	0.47	0.0	21.2	0.07 3.00E-4
0.16363	590.8	206.0	145.0	0.49	0.0	21.2	0.07 3.00E-4
0.16337	591.5	207.2	150.0	0.51	0.0	21.2	0.07 3.00E-4
0.16309	592.3	208.4	155.0	0.53	0.0	21.2	0.07 3.00E-4
0.16281	593.1	209.5	160.0	0.55	0.0	21.2	0.07 3.00E-4
0.1625	593.9	210.7	165.0	0.57	0.0	21.2	0.07 3.00E-4
0.16219	594.8	211.9	170.0	0.589	0.0	21.2	0.07 3.00E-4
0.16186	595.8	213.1	175.0	0.609	0.0	21.2	0.07 3.00E-4
0.16152	596.8	214.2	180.0	0.629	0.0	21.2	0.07 3.00E-4
0.16116	597.9	215.4	185.0	0.649	0.0	21.2	0.07 3.00E-4
0.16081	599.0	216.6	190.0	0.669	0.0	21.2	0.07 3.00E-4
0.16043	600.1	217.7	195.0	0.689	0.0	21.2	0.07 3.00E-4
0.16005	601.3	218.8	200.0	0.708	0.0	21.2	0.07 3.00E-4
0.15966	602.6	220.0	205.0	0.728	0.0	21.2	0.07 3.00E-4
0.15925	603.9	221.1	210.0	0.748	0.0	21.2	0.07 3.00E-4
0.15885	605.2	222.2	215.0	0.768	0.0	21.2	0.07 3.00E-4
0.15844	606.5	223.3	220.0	0.788	0.0	21.2	0.07 3.00E-4
0.15802	607.9	224.5	225.0	0.808	0.0	21.2	0.07 3.00E-4
0.15759	609.3	225.6	230.0	0.827	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt							
0.15715	610.8	226.7	235.0	0.847	0.0	21.2	0.07 3.00E-4
0.1567	612.3	227.8	240.0	0.867	0.0	21.2	0.07 3.00E-4
0.15626	613.8	228.9	245.0	0.887	0.0	21.2	0.07 3.00E-4
0.15581	615.3	229.9	250.0	0.907	0.0	21.2	0.07 3.00E-4
0.15536	616.9	231.0	255.0	0.927	0.0	21.2	0.07 3.00E-4
0.1549	618.5	232.1	260.0	0.947	0.0	21.2	0.07 3.00E-4
0.15444	620.1	233.2	265.0	0.966	0.0	21.2	0.07 3.00E-4
0.15398	621.7	234.2	270.0	0.986	0.0	21.2	0.07 3.00E-4
0.15353	623.3	235.3	275.0	1.006	0.0	21.2	0.07 3.00E-4
0.15307	624.9	236.3	280.0	1.026	0.0	21.2	0.07 3.00E-4
0.1526	626.6	237.4	285.0	1.046	0.0	21.2	0.07 3.00E-4
0.15213	628.3	238.4	290.0	1.066	0.0	21.2	0.07 3.00E-4
0.15166	630.0	239.5	295.0	1.085	0.0	21.2	0.07 3.00E-4
0.15119	631.7	240.5	300.0	1.105	0.0	21.2	0.07 3.00E-4
0.15072	633.4	241.5	305.0	1.125	0.0	21.2	0.07 3.00E-4

count: 57

/ windows UM3.

Case 37; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
	Far-dir deg	Disprsn m/s ^{0.67} /s ²	deg	psu	C	kg/kg	s-1
0.07	0.0	0.07 0.0003	90.0	35.14	24.64	0.0	0.000312
0.07	2.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	4.0	0.07 0.0003	90.0	35.14	24.64	0.0	0.000312
0.07	6.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	8.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	10.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	12.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	14.0	0.07 0.0003	90.0	35.14	24.64	0.0	0.000312
0.07	16.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	18.0	0.07 0.0003	90.0	35.14	24.63	0.0	0.000312
0.07	20.0	0.07 0.0003	90.0	35.14	24.64	0.0	0.000312
0.07	22.0	0.07 0.0003	90.0	35.14	24.64	0.0	0.000312
0.07	24.0	0.07 0.0003	90.0	35.16	24.61	0.0	0.000312
0.07	26.0	0.07 0.0003	90.0	35.19	24.51	0.0	0.000312
0.07	28.0	0.07 0.0003	90.0	35.2	24.48	0.0	0.000312
0.07	30.0	0.07 0.0003	90.0	35.2	24.35	0.0	0.000312
0.07	32.0	0.07 0.0003	90.0	35.21	24.24	0.0	0.000312
0.07	33.0	0.07 0.0003	90.0	35.21	24.19	0.0	0.000312
0.07	90.0	0.0003					
	Tt1-flo (MGD)	Temp (C)					
	15.25	28.04					
	Froude number:	6.076					

Kailua_avg8.txt								
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837	
60	105.3	0.07	15.04	30.48	3.231	-0.967	1.507	
80	105.0	0.07	21.0	20.51	4.791	-1.463	2.4	
100	104.4	0.07	28.26	13.8	7.108	-2.003	3.499	
120	103.5	0.07	36.92	9.289	10.55	-2.505	4.697	
140	102.2	0.07	47.46	6.251	15.67	-2.95	5.993	
160	100.5	0.07	60.58	4.207	23.27	-3.345	7.449	
180	98.46	0.07	77.11	2.831	34.57	-3.696	9.148	
200	95.91	0.07	98.07	1.905	51.36	-4.009	11.2	
220	92.82	0.07	124.8	1.282	76.31	-4.288	13.75	
221	92.65	0.07	126.3	1.257	77.84	-4.301	13.89	merging,
240	88.03	0.07	170.0	0.863	113.4	-4.604	17.85	
260	80.68	0.07	251.1	0.58	168.5	-4.947	24.26	
280	70.55	0.07	410.6	0.391	250.4	-5.315	34.23	axial vel
0.012								
297	59.26	0.07	635.6	0.279	350.6	-5.679	48.24	max dilution
reached								
300	56.84	0.07	683.0	0.263	372.0	-5.751	51.58	
320	36.48	0.07	1081.6	0.177	552.8	-6.285	82.75	surface,
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of							180.28
m								

conc (ppm)	dilutn (m)	width (m)	distncest (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)	(m ^{0.67} /s ²)
0.17604	554.5	181.6	30.0	0.0187	0.0	21.2	0.07	3.00E-4
0.17612	554.0	183.1	35.0	0.0385	0.0	21.2	0.07	3.00E-4
0.17612	553.7	184.5	40.0	0.0584	0.0	21.2	0.07	3.00E-4
0.1761	553.5	185.9	45.0	0.0782	0.0	21.2	0.07	3.00E-4
0.17606	553.4	187.3	50.0	0.098	0.0	21.2	0.07	3.00E-4
0.17602	553.3	188.7	55.0	0.118	0.0	21.2	0.07	3.00E-4
0.17596	553.3	190.1	60.0	0.138	0.0	21.2	0.07	3.00E-4
0.1759	553.2	191.5	65.0	0.158	0.0	21.2	0.07	3.00E-4
0.17584	553.1	192.8	70.0	0.177	0.0	21.2	0.07	3.00E-4
0.17578	553.1	194.2	75.0	0.197	0.0	21.2	0.07	3.00E-4
0.17571	553.1	195.5	80.0	0.217	0.0	21.2	0.07	3.00E-4
0.17564	553.1	196.9	85.0	0.237	0.0	21.2	0.07	3.00E-4
0.17556	553.1	198.2	90.0	0.257	0.0	21.2	0.07	3.00E-4
0.17547	553.1	199.5	95.0	0.277	0.0	21.2	0.07	3.00E-4
0.17538	553.2	200.8	100.0	0.296	0.0	21.2	0.07	3.00E-4
0.17527	553.3	202.1	105.0	0.316	0.0	21.2	0.07	3.00E-4
0.17516	553.4	203.4	110.0	0.336	0.0	21.2	0.07	3.00E-4
0.17502	553.6	204.7	115.0	0.356	0.0	21.2	0.07	3.00E-4
0.17488	553.8	206.0	120.0	0.376	0.0	21.2	0.07	3.00E-4
0.17472	554.1	207.2	125.0	0.396	0.0	21.2	0.07	3.00E-4
0.17454	554.4	208.5	130.0	0.416	0.0	21.2	0.07	3.00E-4
0.17434	554.8	209.7	135.0	0.435	0.0	21.2	0.07	3.00E-4
0.17413	555.2	211.0	140.0	0.455	0.0	21.2	0.07	3.00E-4
0.1739	555.7	212.2	145.0	0.475	0.0	21.2	0.07	3.00E-4
0.17364	556.3	213.5	150.0	0.495	0.0	21.2	0.07	3.00E-4
0.17338	557.0	214.7	155.0	0.515	0.0	21.2	0.07	3.00E-4
0.1731	557.6	215.9	160.0	0.535	0.0	21.2	0.07	3.00E-4
0.17281	558.3	217.1	165.0	0.554	0.0	21.2	0.07	3.00E-4
0.1725	559.1	218.3	170.0	0.574	0.0	21.2	0.07	3.00E-4
0.17218	559.9	219.5	175.0	0.594	0.0	21.2	0.07	3.00E-4
0.17184	560.8	220.7	180.0	0.614	0.0	21.2	0.07	3.00E-4
0.1715	561.7	221.9	185.0	0.634	0.0	21.2	0.07	3.00E-4
0.17114	562.7	223.1	190.0	0.654	0.0	21.2	0.07	3.00E-4
0.17076	563.7	224.2	195.0	0.673	0.0	21.2	0.07	3.00E-4
0.17039	564.7	225.4	200.0	0.693	0.0	21.2	0.07	3.00E-4
0.17	565.7	226.5	205.0	0.713	0.0	21.2	0.07	3.00E-4

Kailua_avg8.txt

0.1696	566.9	227.7	210.0	0.733	0.0	21.2	0.07	3.00E-4
0.16918	568.0	228.8	215.0	0.753	0.0	21.2	0.07	3.00E-4
0.16877	569.2	230.0	220.0	0.773	0.0	21.2	0.07	3.00E-4
0.16835	570.4	231.1	225.0	0.792	0.0	21.2	0.07	3.00E-4
0.16791	571.6	232.3	230.0	0.812	0.0	21.2	0.07	3.00E-4
0.16747	572.9	233.4	235.0	0.832	0.0	21.2	0.07	3.00E-4
0.16703	574.2	234.5	240.0	0.852	0.0	21.2	0.07	3.00E-4
0.16657	575.6	235.6	245.0	0.872	0.0	21.2	0.07	3.00E-4
0.1661	577.0	236.7	250.0	0.892	0.0	21.2	0.07	3.00E-4
0.16565	578.4	237.8	255.0	0.912	0.0	21.2	0.07	3.00E-4
0.16518	579.8	238.9	260.0	0.931	0.0	21.2	0.07	3.00E-4
0.16471	581.2	240.0	265.0	0.951	0.0	21.2	0.07	3.00E-4
0.16424	582.6	241.1	270.0	0.971	0.0	21.2	0.07	3.00E-4
0.16376	584.1	242.2	275.0	0.991	0.0	21.2	0.07	3.00E-4
0.16328	585.6	243.3	280.0	1.011	0.0	21.2	0.07	3.00E-4
0.16282	587.1	244.3	285.0	1.031	0.0	21.2	0.07	3.00E-4
0.16234	588.6	245.4	290.0	1.05	0.0	21.2	0.07	3.00E-4
0.16185	590.1	246.5	295.0	1.07	0.0	21.2	0.07	3.00E-4
0.16137	591.6	247.5	300.0	1.09	0.0	21.2	0.07	3.00E-4
0.16088	593.2	248.6	305.0	1.11	0.0	21.2	0.07	3.00E-4

count: 56

/ Windows UM3.

Case 38; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
m/s	Far-dir	Disprsn	deg	psu	C	kg/kg	s-1	
m/s	deg	m/s	deg					
0.07	0.0	0.07	90.0	35.14	24.64	0.0	0.000312	
0.07	90.0	0.0003						
0.07	2.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.0003						
0.07	4.0	0.07	90.0	35.14	24.64	0.0	0.000312	
0.07	90.0	0.0003						
0.07	6.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.0003						
0.07	8.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.0003						
0.07	10.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.14	24.64	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.14	24.63	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.14	24.64	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.14	24.64	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.16	24.61	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.19	24.51	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.2	24.48	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.2	24.35	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.21	24.24	0.0	0.000312	
0.07	90.0	0.0003						
	33.0	0.07	90.0	35.21	24.19	0.0	0.000312	

Kailua_avg8.txt

0.07 90.0 0.0003

Ttl-flo Temp
(MGD) (C)
15.25 28.04

Froude number: 6.076

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837
60	105.3	0.07	15.04	30.48	3.231	-0.967	1.507
80	105.0	0.07	21.0	20.51	4.791	-1.463	2.4
100	104.4	0.07	28.26	13.8	7.108	-2.003	3.499
120	103.5	0.07	36.92	9.289	10.55	-2.505	4.697
140	102.2	0.07	47.46	6.251	15.67	-2.95	5.993
160	100.5	0.07	60.58	4.207	23.27	-3.345	7.449
180	98.46	0.07	77.11	2.831	34.57	-3.696	9.148
200	95.91	0.07	98.07	1.905	51.36	-4.009	11.2
220	92.82	0.07	124.8	1.282	76.31	-4.288	13.75
221	92.65	0.07	126.3	1.257	77.84	-4.301	13.89
240	88.03	0.07	170.0	0.863	113.4	-4.604	17.85
260	80.68	0.07	251.1	0.58	168.5	-4.947	24.26
280	70.55	0.07	410.6	0.391	250.4	-5.315	34.23
0.012							axial vel
297	59.26	0.07	635.6	0.279	350.6	-5.679	48.24; max dilution
reached							
300	56.84	0.07	683.0	0.263	372.0	-5.751	51.58
320	36.48	0.07	1081.6	0.177	552.8	-6.285	82.75; surface,

Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 180.28 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)	(m ^{0.67} /s ²)
0.17604	554.5	181.6	30.0	0.0187	0.0	21.2	0.07	3.00E-4
0.17612	554.0	183.1	35.0	0.0385	0.0	21.2	0.07	3.00E-4
0.17612	553.7	184.5	40.0	0.0584	0.0	21.2	0.07	3.00E-4
0.1761	553.5	185.9	45.0	0.0782	0.0	21.2	0.07	3.00E-4
0.17606	553.4	187.3	50.0	0.098	0.0	21.2	0.07	3.00E-4
0.17602	553.3	188.7	55.0	0.118	0.0	21.2	0.07	3.00E-4
0.17596	553.3	190.1	60.0	0.138	0.0	21.2	0.07	3.00E-4
0.1759	553.2	191.5	65.0	0.158	0.0	21.2	0.07	3.00E-4
0.17584	553.1	192.8	70.0	0.177	0.0	21.2	0.07	3.00E-4
0.17578	553.1	194.2	75.0	0.197	0.0	21.2	0.07	3.00E-4
0.17571	553.1	195.5	80.0	0.217	0.0	21.2	0.07	3.00E-4
0.17564	553.1	196.9	85.0	0.237	0.0	21.2	0.07	3.00E-4
0.17556	553.1	198.2	90.0	0.257	0.0	21.2	0.07	3.00E-4
0.17547	553.1	199.5	95.0	0.277	0.0	21.2	0.07	3.00E-4
0.17538	553.2	200.8	100.0	0.296	0.0	21.2	0.07	3.00E-4
0.17527	553.3	202.1	105.0	0.316	0.0	21.2	0.07	3.00E-4
0.17516	553.4	203.4	110.0	0.336	0.0	21.2	0.07	3.00E-4
0.17502	553.6	204.7	115.0	0.356	0.0	21.2	0.07	3.00E-4
0.17488	553.8	206.0	120.0	0.376	0.0	21.2	0.07	3.00E-4
0.17472	554.1	207.2	125.0	0.396	0.0	21.2	0.07	3.00E-4
0.17454	554.4	208.5	130.0	0.416	0.0	21.2	0.07	3.00E-4
0.17434	554.8	209.7	135.0	0.435	0.0	21.2	0.07	3.00E-4
0.17413	555.2	211.0	140.0	0.455	0.0	21.2	0.07	3.00E-4
0.1739	555.7	212.2	145.0	0.475	0.0	21.2	0.07	3.00E-4
0.17364	556.3	213.5	150.0	0.495	0.0	21.2	0.07	3.00E-4
0.17338	557.0	214.7	155.0	0.515	0.0	21.2	0.07	3.00E-4
0.1731	557.6	215.9	160.0	0.535	0.0	21.2	0.07	3.00E-4
0.17281	558.3	217.1	165.0	0.554	0.0	21.2	0.07	3.00E-4
0.1725	559.1	218.3	170.0	0.574	0.0	21.2	0.07	3.00E-4
0.17218	559.9	219.5	175.0	0.594	0.0	21.2	0.07	3.00E-4
0.17184	560.8	220.7	180.0	0.614	0.0	21.2	0.07	3.00E-4

Kailua_avg8.txt								
0.1715	561.7	221.9	185.0	0.634	0.0	21.2	0.07	3.00E-4
0.17114	562.7	223.1	190.0	0.654	0.0	21.2	0.07	3.00E-4
0.17076	563.7	224.2	195.0	0.673	0.0	21.2	0.07	3.00E-4
0.17039	564.7	225.4	200.0	0.693	0.0	21.2	0.07	3.00E-4
0.17	565.7	226.5	205.0	0.713	0.0	21.2	0.07	3.00E-4
0.1696	566.9	227.7	210.0	0.733	0.0	21.2	0.07	3.00E-4
0.16918	568.0	228.8	215.0	0.753	0.0	21.2	0.07	3.00E-4
0.16877	569.2	230.0	220.0	0.773	0.0	21.2	0.07	3.00E-4
0.16835	570.4	231.1	225.0	0.792	0.0	21.2	0.07	3.00E-4
0.16791	571.6	232.3	230.0	0.812	0.0	21.2	0.07	3.00E-4
0.16747	572.9	233.4	235.0	0.832	0.0	21.2	0.07	3.00E-4
0.16703	574.2	234.5	240.0	0.852	0.0	21.2	0.07	3.00E-4
0.16657	575.6	235.6	245.0	0.872	0.0	21.2	0.07	3.00E-4
0.1661	577.0	236.7	250.0	0.892	0.0	21.2	0.07	3.00E-4
0.16565	578.4	237.8	255.0	0.912	0.0	21.2	0.07	3.00E-4
0.16518	579.8	238.9	260.0	0.931	0.0	21.2	0.07	3.00E-4
0.16471	581.2	240.0	265.0	0.951	0.0	21.2	0.07	3.00E-4
0.16424	582.6	241.1	270.0	0.971	0.0	21.2	0.07	3.00E-4
0.16376	584.1	242.2	275.0	0.991	0.0	21.2	0.07	3.00E-4
0.16328	585.6	243.3	280.0	1.011	0.0	21.2	0.07	3.00E-4
0.16282	587.1	244.3	285.0	1.031	0.0	21.2	0.07	3.00E-4
0.16234	588.6	245.4	290.0	1.05	0.0	21.2	0.07	3.00E-4
0.16185	590.1	246.5	295.0	1.07	0.0	21.2	0.07	3.00E-4
0.16137	591.6	247.5	300.0	1.09	0.0	21.2	0.07	3.00E-4
0.16088	593.2	248.6	305.0	1.11	0.0	21.2	0.07	3.00E-4

count: 56

/ Windows UM3.

Case 39; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur		Amb-dir deg	Amb-disprsn m0.67/s2	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
		Far-dir deg	Disprsn m/s						
0.07	0.0	90.0	0.0003	90.0	0.07	35.14	24.64	0.0	0.000312
0.07	2.0	90.0	0.0003	90.0	0.07	35.14	24.63	0.0	0.000312
0.07	4.0	90.0	0.0003	90.0	0.07	35.14	24.64	0.0	0.000312
0.07	6.0	90.0	0.0003	90.0	0.07	35.14	24.63	0.0	0.000312
0.07	8.0	90.0	0.0003	90.0	0.07	35.14	24.63	0.0	0.000312
0.07	10.0	90.0	0.0003	90.0	0.07	35.14	24.63	0.0	0.000312
0.07	12.0	90.0	0.0003	90.0	0.07	35.14	24.63	0.0	0.000312
0.07	14.0	90.0	0.0003	90.0	0.07	35.14	24.64	0.0	0.000312
0.07	16.0	90.0	0.0003	90.0	0.07	35.14	24.63	0.0	0.000312
0.07	18.0	90.0	0.0003	90.0	0.07	35.14	24.63	0.0	0.000312
0.07	20.0	90.0	0.0003	90.0	0.07	35.14	24.64	0.0	0.000312
0.07	22.0	90.0	0.0003	90.0	0.07	35.14	24.64	0.0	0.000312
0.07	24.0	90.0	0.0003	90.0	0.07	35.16	24.61	0.0	0.000312
0.07	26.0	90.0	0.0003	90.0	0.07	35.19	24.51	0.0	0.000312
0.07	28.0	90.0	0.0003	90.0	0.07	35.2	24.48	0.0	0.000312

Kailua_avg8.txt

0.07	30.0	0.07	90.0	35.2	24.35	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.21	24.24	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.21	24.19	0.0	0.000312
	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
15.25	28.04						
Froude number:	6.076						
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;
60	105.3	0.07	15.04	30.48	3.231	-0.967	1.507;
80	105.0	0.07	21.0	20.51	4.791	-1.463	2.4;
100	104.4	0.07	28.26	13.8	7.108	-2.003	3.499;
120	103.5	0.07	36.92	9.289	10.55	-2.505	4.697;
140	102.2	0.07	47.46	6.251	15.67	-2.95	5.993;
160	100.5	0.07	60.58	4.207	23.27	-3.345	7.449;
180	98.46	0.07	77.11	2.831	34.57	-3.696	9.148;
200	95.91	0.07	98.07	1.905	51.36	-4.009	11.2;
220	92.82	0.07	124.8	1.282	76.31	-4.288	13.75;
221	92.65	0.07	126.3	1.257	77.84	-4.301	13.89; merging,
240	88.03	0.07	170.0	0.863	113.4	-4.604	17.85;
260	80.68	0.07	251.1	0.58	168.5	-4.947	24.26;
280	70.55	0.07	410.6	0.391	250.4	-5.315	34.23; axial vel
0.012							
297	59.26	0.07	635.6	0.279	350.6	-5.679	48.24; max dilution
reached							
300	56.84	0.07	683.0	0.263	372.0	-5.751	51.58;
320	36.48	0.07	1081.6	0.177	552.8	-6.285	82.75; surface,
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of	180.28	m				
conc	dilutn	width	distnce	time			
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.17604	554.5	181.6	30.0	0.0187	0.0	21.2	0.07 3.00E-4
0.17612	554.0	183.1	35.0	0.0385	0.0	21.2	0.07 3.00E-4
0.17612	553.7	184.5	40.0	0.0584	0.0	21.2	0.07 3.00E-4
0.1761	553.5	185.9	45.0	0.0782	0.0	21.2	0.07 3.00E-4
0.17606	553.4	187.3	50.0	0.098	0.0	21.2	0.07 3.00E-4
0.17602	553.3	188.7	55.0	0.118	0.0	21.2	0.07 3.00E-4
0.17596	553.3	190.1	60.0	0.138	0.0	21.2	0.07 3.00E-4
0.1759	553.2	191.5	65.0	0.158	0.0	21.2	0.07 3.00E-4
0.17584	553.1	192.8	70.0	0.177	0.0	21.2	0.07 3.00E-4
0.17578	553.1	194.2	75.0	0.197	0.0	21.2	0.07 3.00E-4
0.17571	553.1	195.5	80.0	0.217	0.0	21.2	0.07 3.00E-4
0.17564	553.1	196.9	85.0	0.237	0.0	21.2	0.07 3.00E-4
0.17556	553.1	198.2	90.0	0.257	0.0	21.2	0.07 3.00E-4
0.17547	553.1	199.5	95.0	0.277	0.0	21.2	0.07 3.00E-4
0.17538	553.2	200.8	100.0	0.296	0.0	21.2	0.07 3.00E-4
0.17527	553.3	202.1	105.0	0.316	0.0	21.2	0.07 3.00E-4
0.17516	553.4	203.4	110.0	0.336	0.0	21.2	0.07 3.00E-4
0.17502	553.6	204.7	115.0	0.356	0.0	21.2	0.07 3.00E-4
0.17488	553.8	206.0	120.0	0.376	0.0	21.2	0.07 3.00E-4
0.17472	554.1	207.2	125.0	0.396	0.0	21.2	0.07 3.00E-4
0.17454	554.4	208.5	130.0	0.416	0.0	21.2	0.07 3.00E-4
0.17434	554.8	209.7	135.0	0.435	0.0	21.2	0.07 3.00E-4
0.17413	555.2	211.0	140.0	0.455	0.0	21.2	0.07 3.00E-4
0.1739	555.7	212.2	145.0	0.475	0.0	21.2	0.07 3.00E-4
0.17364	556.3	213.5	150.0	0.495	0.0	21.2	0.07 3.00E-4
0.17338	557.0	214.7	155.0	0.515	0.0	21.2	0.07 3.00E-4

	Kailua_avg8.txt							
	557.6	215.9	160.0	0.535	0.0	21.2	0.07	3.00E-4
0.1731	558.3	217.1	165.0	0.554	0.0	21.2	0.07	3.00E-4
0.17281	559.1	218.3	170.0	0.574	0.0	21.2	0.07	3.00E-4
0.1725	559.9	219.5	175.0	0.594	0.0	21.2	0.07	3.00E-4
0.17218	560.8	220.7	180.0	0.614	0.0	21.2	0.07	3.00E-4
0.17184	561.7	221.9	185.0	0.634	0.0	21.2	0.07	3.00E-4
0.17114	562.7	223.1	190.0	0.654	0.0	21.2	0.07	3.00E-4
0.17076	563.7	224.2	195.0	0.673	0.0	21.2	0.07	3.00E-4
0.17039	564.7	225.4	200.0	0.693	0.0	21.2	0.07	3.00E-4
0.17	565.7	226.5	205.0	0.713	0.0	21.2	0.07	3.00E-4
0.1696	566.9	227.7	210.0	0.733	0.0	21.2	0.07	3.00E-4
0.16918	568.0	228.8	215.0	0.753	0.0	21.2	0.07	3.00E-4
0.16877	569.2	230.0	220.0	0.773	0.0	21.2	0.07	3.00E-4
0.16835	570.4	231.1	225.0	0.792	0.0	21.2	0.07	3.00E-4
0.16791	571.6	232.3	230.0	0.812	0.0	21.2	0.07	3.00E-4
0.16747	572.9	233.4	235.0	0.832	0.0	21.2	0.07	3.00E-4
0.16703	574.2	234.5	240.0	0.852	0.0	21.2	0.07	3.00E-4
0.16657	575.6	235.6	245.0	0.872	0.0	21.2	0.07	3.00E-4
0.1661	577.0	236.7	250.0	0.892	0.0	21.2	0.07	3.00E-4
0.16565	578.4	237.8	255.0	0.912	0.0	21.2	0.07	3.00E-4
0.16518	579.8	238.9	260.0	0.931	0.0	21.2	0.07	3.00E-4
0.16471	581.2	240.0	265.0	0.951	0.0	21.2	0.07	3.00E-4
0.16424	582.6	241.1	270.0	0.971	0.0	21.2	0.07	3.00E-4
0.16376	584.1	242.2	275.0	0.991	0.0	21.2	0.07	3.00E-4
0.16328	585.6	243.3	280.0	1.011	0.0	21.2	0.07	3.00E-4
0.16282	587.1	244.3	285.0	1.031	0.0	21.2	0.07	3.00E-4
0.16234	588.6	245.4	290.0	1.05	0.0	21.2	0.07	3.00E-4
0.16185	590.1	246.5	295.0	1.07	0.0	21.2	0.07	3.00E-4
0.16137	591.6	247.5	300.0	1.09	0.0	21.2	0.07	3.00E-4
0.16088	593.2	248.6	305.0	1.11	0.0	21.2	0.07	3.00E-4

count: 56

/ Windows UM3.

Case 40; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir m deg	Far-dir m/s deg	Disprsn m0.67/s2	deg	psu	c	kg/kg	s-1
0.07	0.0	0.07	0.0003	90.0	35.18	24.42	0.0	0.000312
0.07	2.0	0.07	0.0003	90.0	35.18	24.43	0.0	0.000312
0.07	4.0	0.07	0.0003	90.0	35.18	24.43	0.0	0.000312
0.07	6.0	0.07	0.0003	90.0	35.18	24.43	0.0	0.000312
0.07	8.0	0.07	0.0003	90.0	35.18	24.43	0.0	0.000312
0.07	10.0	0.07	0.0003	90.0	35.18	24.43	0.0	0.000312
0.07	12.0	0.07	0.0003	90.0	35.18	24.43	0.0	0.000312
0.07	14.0	0.07	0.0003	90.0	35.18	24.43	0.0	0.000312
0.07	16.0	0.07	0.0003	90.0	35.18	24.43	0.0	0.000312
0.07	18.0	0.07	0.0003	90.0	35.18	24.43	0.0	0.000312
0.07	20.0	0.07	0.0003	90.0	35.18	24.43	0.0	0.000312
0.07	22.0	0.07	0.0003	90.0	35.18	24.43	0.0	0.000312
0.07	24.0	0.07	0.0003	90.0	35.18	24.43	0.0	0.000312

Kailua_avg8.txt

0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.18	24.43	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.18	24.43	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.18	24.42	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.17	24.38	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.17	24.37	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.086							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837	
60	105.3	0.07	15.05	30.48	3.231	-0.967	1.507	
80	105.0	0.07	21.01	20.51	4.791	-1.463	2.401	
100	104.4	0.07	28.27	13.8	7.109	-2.003	3.501	
120	103.5	0.07	36.93	9.289	10.55	-2.506	4.699	
140	102.2	0.07	47.47	6.251	15.67	-2.952	5.997	
160	100.5	0.07	60.55	4.207	23.27	-3.347	7.452	
180	98.46	0.07	76.97	2.831	34.57	-3.697	9.15	
200	95.88	0.07	97.65	1.905	51.37	-4.009	11.2	
220	92.75	0.07	123.7	1.282	76.32	-4.286	13.73	
221	92.58	0.07	125.2	1.257	77.84	-4.299	13.87	
240	87.88	0.07	165.9	0.863	113.4	-4.593	17.72	
260	80.27	0.07	237.2	0.58	168.5	-4.921	23.82	
280	68.68	0.07	347.5	0.391	250.4	-5.256	32.88	
297	54.29	0.07	484.6	0.279	350.5	-5.544	43.91	
0.0222	max dilution reached						axial vel	
300	51.19	0.07	514.0	0.263	372.0	-5.595	46.26	
320	24.94	0.07	763.1	0.177	552.8	-5.934	65.99	
0.076							axial vel	
323	20.0	0.07	809.8	0.167	586.6	-5.985	69.68; surface,	
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						173.37	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr) (m/s)(m ^{0.67} /s ²)	
0.16591	588.6	174.4	25.0	0.0146	0.0	21.2	0.07 3.00E-4	
0.16601	587.9	175.8	30.0	0.0345	0.0	21.2	0.07 3.00E-4	
0.16603	587.6	177.3	35.0	0.0543	0.0	21.2	0.07 3.00E-4	
0.16601	587.4	178.7	40.0	0.0741	0.0	21.2	0.07 3.00E-4	
0.16598	587.3	180.0	45.0	0.094	0.0	21.2	0.07 3.00E-4	
0.16593	587.2	181.4	50.0	0.114	0.0	21.2	0.07 3.00E-4	
0.16588	587.1	182.8	55.0	0.134	0.0	21.2	0.07 3.00E-4	
0.16583	587.0	184.1	60.0	0.154	0.0	21.2	0.07 3.00E-4	
0.16577	587.0	185.5	65.0	0.173	0.0	21.2	0.07 3.00E-4	
0.16571	586.9	186.8	70.0	0.193	0.0	21.2	0.07 3.00E-4	
0.16565	586.9	188.1	75.0	0.213	0.0	21.2	0.07 3.00E-4	
0.16558	586.9	189.5	80.0	0.233	0.0	21.2	0.07 3.00E-4	
0.16555	586.9	190.8	85.0	0.253	0.0	21.2	0.07 3.00E-4	
0.16542	586.9	192.1	90.0	0.273	0.0	21.2	0.07 3.00E-4	
0.16533	587.0	193.4	95.0	0.292	0.0	21.2	0.07 3.00E-4	
0.16523	587.1	194.6	100.0	0.312	0.0	21.2	0.07 3.00E-4	
0.16511	587.3	195.9	105.0	0.332	0.0	21.2	0.07 3.00E-4	
0.16498	587.5	197.2	110.0	0.352	0.0	21.2	0.07 3.00E-4	
0.16484	587.7	198.4	115.0	0.372	0.0	21.2	0.07 3.00E-4	
0.16468	588.1	199.7	120.0	0.392	0.0	21.2	0.07 3.00E-4	

Kailua_avg8.txt

0.1645	588.4	200.9	125.0	0.411	0.0	21.2	0.07	3.00E-4
0.16431	588.9	202.2	130.0	0.431	0.0	21.2	0.07	3.00E-4
0.1641	589.4	203.4	135.0	0.451	0.0	21.2	0.07	3.00E-4
0.16387	590.0	204.6	140.0	0.471	0.0	21.2	0.07	3.00E-4
0.16362	590.6	205.8	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.16336	591.3	207.0	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.16308	592.1	208.2	155.0	0.53	0.0	21.2	0.07	3.00E-4
0.16279	592.9	209.4	160.0	0.55	0.0	21.2	0.07	3.00E-4
0.16249	593.8	210.6	165.0	0.57	0.0	21.2	0.07	3.00E-4
0.16217	594.7	211.8	170.0	0.59	0.0	21.2	0.07	3.00E-4
0.16185	595.7	212.9	175.0	0.61	0.0	21.2	0.07	3.00E-4
0.1615	596.7	214.1	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.16115	597.8	215.3	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.16079	598.9	216.4	190.0	0.669	0.0	21.2	0.07	3.00E-4
0.16042	600.0	217.6	195.0	0.689	0.0	21.2	0.07	3.00E-4
0.16003	601.2	218.7	200.0	0.709	0.0	21.2	0.07	3.00E-4
0.15964	602.5	219.8	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.15924	603.8	221.0	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.15884	605.0	222.1	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.15842	606.4	223.2	220.0	0.788	0.0	21.2	0.07	3.00E-4
0.158	607.8	224.3	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.15757	609.2	225.4	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.15713	610.7	226.5	235.0	0.848	0.0	21.2	0.07	3.00E-4
0.15668	612.2	227.6	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.15623	613.7	228.7	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.15579	615.2	229.8	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.15533	616.8	230.9	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.15488	618.3	231.9	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.15442	620.0	233.0	265.0	0.967	0.0	21.2	0.07	3.00E-4
0.15396	621.6	234.1	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.15351	623.2	235.1	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.15304	624.8	236.2	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.15258	626.5	237.2	285.0	1.046	0.0	21.2	0.07	3.00E-4
0.15211	628.2	238.3	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.15164	629.9	239.3	295.0	1.086	0.0	21.2	0.07	3.00E-4
0.15117	631.6	240.4	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.1507	633.3	241.4	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 41; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
Far-dir	Far-dir	Disprsn	deg	psu	C	kg/kg	s-1	
m/s	m	m0.67/s2						
0.07	0.0	0.07	90.0	35.18	24.42	0.0	0.000312	
0.07	90.0	0.0003						
0.07	2.0	0.07	90.0	35.18	24.43	0.0	0.000312	
0.07	90.0	0.0003						
0.07	4.0	0.07	90.0	35.18	24.43	0.0	0.000312	
0.07	90.0	0.0003						
0.07	6.0	0.07	90.0	35.18	24.43	0.0	0.000312	
0.07	90.0	0.0003						
0.07	8.0	0.07	90.0	35.18	24.43	0.0	0.000312	
0.07	90.0	0.0003						
0.07	10.0	0.07	90.0	35.18	24.43	0.0	0.000312	
0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.18	24.43	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.18	24.43	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.18	24.43	0.0	0.000312	
0.07	90.0	0.0003						

Kailua_avg8.txt

0.07	18.0	0.07	90.0	35.18	24.43	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	35.18	24.43	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	35.18	24.43	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	35.18	24.43	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	35.18	24.43	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	35.18	24.43	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	35.18	24.42	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.17	24.38	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.17	24.37	0.0	0.000312
	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
15.25	28.04						
Froude number:	6.086						
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837
60	105.3	0.07	15.05	30.48	3.231	-0.967	1.507
80	105.0	0.07	21.01	20.51	4.791	-1.463	2.401
100	104.4	0.07	28.27	13.8	7.109	-2.003	3.501
120	103.5	0.07	36.93	9.289	10.55	-2.506	4.699
140	102.2	0.07	47.47	6.251	15.67	-2.952	5.997
160	100.5	0.07	60.55	4.207	23.27	-3.347	7.452
180	98.46	0.07	76.97	2.831	34.57	-3.697	9.15
200	95.88	0.07	97.65	1.905	51.37	-4.009	11.2
220	92.75	0.07	123.7	1.282	76.32	-4.286	13.73
221	92.58	0.07	125.2	1.257	77.84	-4.299	13.87
240	87.88	0.07	165.9	0.863	113.4	-4.593	17.72
260	80.27	0.07	237.2	0.58	168.5	-4.921	23.82
280	68.68	0.07	347.5	0.391	250.4	-5.256	32.88
297	54.29	0.07	484.6	0.279	350.5	-5.544	43.91
0.0222	max dilution reached						axial vel
300	51.19	0.07	514.0	0.263	372.0	-5.595	46.26
320	24.94	0.07	763.1	0.177	552.8	-5.934	65.99
0.076							axial vel
323	20.0	0.07	809.8	0.167	586.6	-5.985	69.68
Const Eddy Diffusivity.	Farfield dispersion						surface,
m							173.37
conc	dilutn	width	distnce	time			
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16591	588.6	174.4	25.0	0.0146	0.0	21.2	0.07 3.00E-4
0.16601	587.9	175.8	30.0	0.0345	0.0	21.2	0.07 3.00E-4
0.16603	587.6	177.3	35.0	0.0543	0.0	21.2	0.07 3.00E-4
0.16601	587.4	178.7	40.0	0.0741	0.0	21.2	0.07 3.00E-4
0.16598	587.3	180.0	45.0	0.094	0.0	21.2	0.07 3.00E-4
0.16593	587.2	181.4	50.0	0.114	0.0	21.2	0.07 3.00E-4
0.16588	587.1	182.8	55.0	0.134	0.0	21.2	0.07 3.00E-4
0.16583	587.0	184.1	60.0	0.154	0.0	21.2	0.07 3.00E-4
0.16577	587.0	185.5	65.0	0.173	0.0	21.2	0.07 3.00E-4
0.16571	586.9	186.8	70.0	0.193	0.0	21.2	0.07 3.00E-4
0.16565	586.9	188.1	75.0	0.213	0.0	21.2	0.07 3.00E-4
0.16558	586.9	189.5	80.0	0.233	0.0	21.2	0.07 3.00E-4
0.1655	586.9	190.8	85.0	0.253	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt

0.16542	586.9	192.1	90.0	0.273	0.0	21.2	0.07	3.00E-4
0.16533	587.0	193.4	95.0	0.292	0.0	21.2	0.07	3.00E-4
0.16523	587.1	194.6	100.0	0.312	0.0	21.2	0.07	3.00E-4
0.16511	587.3	195.9	105.0	0.332	0.0	21.2	0.07	3.00E-4
0.16498	587.5	197.2	110.0	0.352	0.0	21.2	0.07	3.00E-4
0.16484	587.7	198.4	115.0	0.372	0.0	21.2	0.07	3.00E-4
0.16468	588.1	199.7	120.0	0.392	0.0	21.2	0.07	3.00E-4
0.1645	588.4	200.9	125.0	0.411	0.0	21.2	0.07	3.00E-4
0.16431	588.9	202.2	130.0	0.431	0.0	21.2	0.07	3.00E-4
0.1641	589.4	203.4	135.0	0.451	0.0	21.2	0.07	3.00E-4
0.16387	590.0	204.6	140.0	0.471	0.0	21.2	0.07	3.00E-4
0.16362	590.6	205.8	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.16336	591.3	207.0	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.16308	592.1	208.2	155.0	0.53	0.0	21.2	0.07	3.00E-4
0.16279	592.9	209.4	160.0	0.55	0.0	21.2	0.07	3.00E-4
0.16249	593.8	210.6	165.0	0.57	0.0	21.2	0.07	3.00E-4
0.16217	594.7	211.8	170.0	0.59	0.0	21.2	0.07	3.00E-4
0.16185	595.7	212.9	175.0	0.61	0.0	21.2	0.07	3.00E-4
0.1615	596.7	214.1	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.16115	597.8	215.3	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.16079	598.9	216.4	190.0	0.669	0.0	21.2	0.07	3.00E-4
0.16042	600.0	217.6	195.0	0.689	0.0	21.2	0.07	3.00E-4
0.16003	601.2	218.7	200.0	0.709	0.0	21.2	0.07	3.00E-4
0.15964	602.5	219.8	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.15924	603.8	221.0	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.15884	605.0	222.1	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.15842	606.4	223.2	220.0	0.788	0.0	21.2	0.07	3.00E-4
0.158	607.8	224.3	225.0	0.808	0.0	21.2	0.07	3.00E-4
0.15757	609.2	225.4	230.0	0.828	0.0	21.2	0.07	3.00E-4
0.15713	610.7	226.5	235.0	0.848	0.0	21.2	0.07	3.00E-4
0.15668	612.2	227.6	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.15623	613.7	228.7	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.15579	615.2	229.8	250.0	0.907	0.0	21.2	0.07	3.00E-4
0.15533	616.8	230.9	255.0	0.927	0.0	21.2	0.07	3.00E-4
0.15488	618.3	231.9	260.0	0.947	0.0	21.2	0.07	3.00E-4
0.15442	620.0	233.0	265.0	0.967	0.0	21.2	0.07	3.00E-4
0.15396	621.6	234.1	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.15351	623.2	235.1	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.15304	624.8	236.2	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.15258	626.5	237.2	285.0	1.046	0.0	21.2	0.07	3.00E-4
0.15211	628.2	238.3	290.0	1.066	0.0	21.2	0.07	3.00E-4
0.15164	629.9	239.3	295.0	1.086	0.0	21.2	0.07	3.00E-4
0.15117	631.6	240.4	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.1507	633.3	241.4	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 42; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	solar	rad
	Far-dir	Disprsn		psu	c	kg/kg		s-1
m/s	m	m/s	deg					
0.07	0.0	0.07	90.0	34.91	25.72	0.0	0.000312	
	2.0	0.07	0.0003					
0.07	90.0	0.07	90.0	34.91	25.69	0.0	0.000312	
	4.0	0.07	0.0003					
0.07	90.0	0.07	90.0	34.92	25.66	0.0	0.000312	
	6.0	0.07	0.0003					
0.07	90.0	0.07	90.0	34.92	25.66	0.0	0.000312	
	8.0	0.07	0.0003					
0.07	90.0	0.07	90.0	34.93	25.65	0.0	0.000312	
	10.0	0.07	0.0003					

Kailua_avg8.txt

0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	34.93	25.63	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	34.93	25.62	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	34.94	25.59	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	34.94	25.59	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	34.95	25.61	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	34.93	25.6	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	34.94	25.58	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	34.94	25.56	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	34.95	25.55	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	34.95	25.55	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	34.95	25.55	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	34.94	25.55	0.0	0.000312	
0.07	90.0	0.0003						

Tt1-flo Temp
(MGD) (C)
15.25 28.04

Froude number: 6.159

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.241	67.3	1.476	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;
80	105.0	0.07	21.04	20.51	4.793	-1.465	2.403;
100	104.4	0.07	28.35	13.8	7.112	-2.008	3.509;
120	103.5	0.07	37.08	9.289	10.56	-2.514	4.718;
140	102.2	0.07	47.68	6.251	15.68	-2.965	6.027;
160	100.6	0.07	60.84	4.207	23.29	-3.363	7.495;
180	98.52	0.07	77.33	2.831	34.59	-3.716	9.208;
200	95.96	0.07	98.08	1.905	51.39	-4.031	11.27;
220	92.85	0.07	124.2	1.282	76.36	-4.31	13.82;
221	92.68	0.07	125.7	1.257	77.88	-4.323	13.96;
240	87.98	0.07	166.8	0.863	113.4	-4.62	17.85;
260	80.43	0.07	240.6	0.58	168.6	-4.952	24.03;
280	69.09	0.07	361.0	0.391	250.5	-5.295	33.31;
297	54.94	0.07	506.4	0.279	350.7	-5.599	44.98; axial vel
0.0219	max dilution reached						
300	51.87	0.07	537.2	0.263	372.2	-5.653	47.48;
320	27.3	0.07	849.8	0.177	553.0	-6.014	68.46;
322	24.41	0.07	893.3	0.17	575.4	-6.051	71.14; axial vel

0.0799 surface,

Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 175.49 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	Polutnt (ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.1692	577.4	176.4	25.0	0.0129	0.0	21.2	0.07 3.00E-4
0.16932	576.7	177.9	30.0	0.0327	0.0	21.2	0.07 3.00E-4
0.16934	576.4	179.3	35.0	0.0525	0.0	21.2	0.07 3.00E-4
0.16933	576.2	180.7	40.0	0.0724	0.0	21.2	0.07 3.00E-4
0.16929	576.1	182.1	45.0	0.0922	0.0	21.2	0.07 3.00E-4
0.16925	576.0	183.4	50.0	0.112	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt

0.1692	575.9	184.8	55.0	0.132	0.0	21.2	0.07	3.00E-4
0.16914	575.8	186.2	60.0	0.152	0.0	21.2	0.07	3.00E-4
0.16909	575.8	187.5	65.0	0.172	0.0	21.2	0.07	3.00E-4
0.16902	575.7	188.9	70.0	0.191	0.0	21.2	0.07	3.00E-4
0.16896	575.7	190.2	75.0	0.211	0.0	21.2	0.07	3.00E-4
0.16889	575.7	191.5	80.0	0.231	0.0	21.2	0.07	3.00E-4
0.16882	575.7	192.8	85.0	0.251	0.0	21.2	0.07	3.00E-4
0.16873	575.7	194.2	90.0	0.271	0.0	21.2	0.07	3.00E-4
0.16864	575.8	195.4	95.0	0.291	0.0	21.2	0.07	3.00E-4
0.16854	575.9	196.7	100.0	0.31	0.0	21.2	0.07	3.00E-4
0.16843	576.0	198.0	105.0	0.33	0.0	21.2	0.07	3.00E-4
0.1683	576.2	199.3	110.0	0.35	0.0	21.2	0.07	3.00E-4
0.16816	576.4	200.6	115.0	0.37	0.0	21.2	0.07	3.00E-4
0.168	576.7	201.8	120.0	0.39	0.0	21.2	0.07	3.00E-4
0.16782	577.1	203.1	125.0	0.41	0.0	21.2	0.07	3.00E-4
0.16763	577.5	204.3	130.0	0.43	0.0	21.2	0.07	3.00E-4
0.16742	578.0	205.5	135.0	0.449	0.0	21.2	0.07	3.00E-4
0.16719	578.5	206.8	140.0	0.469	0.0	21.2	0.07	3.00E-4
0.16694	579.2	208.0	145.0	0.489	0.0	21.2	0.07	3.00E-4
0.16668	579.8	209.2	150.0	0.509	0.0	21.2	0.07	3.00E-4
0.16641	580.6	210.4	155.0	0.529	0.0	21.2	0.07	3.00E-4
0.16612	581.3	211.6	160.0	0.549	0.0	21.2	0.07	3.00E-4
0.16582	582.2	212.8	165.0	0.568	0.0	21.2	0.07	3.00E-4
0.1655	583.0	214.0	170.0	0.588	0.0	21.2	0.07	3.00E-4
0.16517	584.0	215.1	175.0	0.608	0.0	21.2	0.07	3.00E-4
0.16483	584.9	216.3	180.0	0.628	0.0	21.2	0.07	3.00E-4
0.16447	586.0	217.5	185.0	0.648	0.0	21.2	0.07	3.00E-4
0.16411	587.0	218.6	190.0	0.668	0.0	21.2	0.07	3.00E-4
0.16374	588.1	219.8	195.0	0.687	0.0	21.2	0.07	3.00E-4
0.16336	589.3	220.9	200.0	0.707	0.0	21.2	0.07	3.00E-4
0.16296	590.5	222.1	205.0	0.727	0.0	21.2	0.07	3.00E-4
0.16255	591.7	223.2	210.0	0.747	0.0	21.2	0.07	3.00E-4
0.16215	593.0	224.3	215.0	0.767	0.0	21.2	0.07	3.00E-4
0.16173	594.3	225.5	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.16131	595.6	226.6	225.0	0.807	0.0	21.2	0.07	3.00E-4
0.16087	597.0	227.7	230.0	0.826	0.0	21.2	0.07	3.00E-4
0.16043	598.4	228.8	235.0	0.846	0.0	21.2	0.07	3.00E-4
0.15997	599.9	229.9	240.0	0.866	0.0	21.2	0.07	3.00E-4
0.15953	601.3	231.0	245.0	0.886	0.0	21.2	0.07	3.00E-4
0.15908	602.8	232.1	250.0	0.906	0.0	21.2	0.07	3.00E-4
0.15862	604.3	233.2	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.15816	605.8	234.3	260.0	0.945	0.0	21.2	0.07	3.00E-4
0.1577	607.4	235.3	265.0	0.965	0.0	21.2	0.07	3.00E-4
0.15723	608.9	236.4	270.0	0.985	0.0	21.2	0.07	3.00E-4
0.15677	610.5	237.5	275.0	1.005	0.0	21.2	0.07	3.00E-4
0.1563	612.1	238.5	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.15583	613.7	239.6	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.15536	615.3	240.6	290.0	1.064	0.0	21.2	0.07	3.00E-4
0.15488	617.0	241.7	295.0	1.084	0.0	21.2	0.07	3.00E-4
0.15441	618.6	242.7	300.0	1.104	0.0	21.2	0.07	3.00E-4
0.15393	620.3	243.8	305.0	1.124	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 43; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
	Far-dir	Disprsn	deg	psu	C	kg/kg	s-1
	m	m/s	m0.67/s2				
0.07	0.0	0.07	90.0	34.91	25.72	0.0	0.000312
	90.0	0.0003					
0.07	2.0	0.07	90.0	34.91	25.69	0.0	0.000312
	90.0	0.0003					

Kailua_avg8.txt

0.07	4.0	0.07	90.0	34.92	25.66	0.0	0.000312
	90.0	0.0003					
0.07	6.0	0.07	90.0	34.92	25.66	0.0	0.000312
	90.0	0.0003					
0.07	8.0	0.07	90.0	34.93	25.65	0.0	0.000312
	90.0	0.0003					
0.07	10.0	0.07	90.0	34.93	25.64	0.0	0.000312
	90.0	0.0003					
0.07	12.0	0.07	90.0	34.93	25.63	0.0	0.000312
	90.0	0.0003					
0.07	14.0	0.07	90.0	34.93	25.62	0.0	0.000312
	90.0	0.0003					
0.07	16.0	0.07	90.0	34.94	25.59	0.0	0.000312
	90.0	0.0003					
0.07	18.0	0.07	90.0	34.94	25.59	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	34.95	25.61	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	34.93	25.6	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	34.94	25.58	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	34.94	25.56	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	34.95	25.55	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	34.95	25.55	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	34.95	25.55	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	34.94	25.55	0.0	0.000312
	90.0	0.0003					
0.07	Ttl-flo (MGD)	Temp (C)					
	15.25	28.04					
Froude number:	6.159						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.241	67.3	1.476	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;
80	105.0	0.07	21.04	20.51	4.793	-1.465	2.403;
100	104.4	0.07	28.35	13.8	7.112	-2.008	3.509;
120	103.5	0.07	37.08	9.289	10.56	-2.514	4.718;
140	102.2	0.07	47.68	6.251	15.68	-2.965	6.027;
160	100.6	0.07	60.84	4.207	23.29	-3.363	7.495;
180	98.52	0.07	77.33	2.831	34.59	-3.716	9.208;
200	95.96	0.07	98.08	1.905	51.39	-4.031	11.27;
220	92.85	0.07	124.2	1.282	76.36	-4.31	13.82;
221	92.68	0.07	125.7	1.257	77.88	-4.323	13.96;
240	87.98	0.07	166.8	0.863	113.4	-4.62	17.85;
260	80.43	0.07	240.6	0.58	168.6	-4.952	24.03;
280	69.09	0.07	361.0	0.391	250.5	-5.295	33.31;
297	54.94	0.07	506.4	0.279	350.7	-5.599	44.98; axial vel
0.0219	max dilution reached						
300	51.87	0.07	537.2	0.263	372.2	-5.653	47.48;
320	27.3	0.07	849.8	0.177	553.0	-6.014	68.46;
322	24.41	0.07	893.3	0.17	575.4	-6.051	71.14; axial vel
0.0799	surface,						
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						175.49
m	conc	dilutn	width	distnce	time		

					Kailua_avg8.txt			
(ppm)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)	(m0.67/s2)	
0.1692	577.4	176.4	25.0	0.0129	0.0	21.2	0.07	3.00E-4
0.16932	576.7	177.9	30.0	0.0327	0.0	21.2	0.07	3.00E-4
0.16934	576.4	179.3	35.0	0.0525	0.0	21.2	0.07	3.00E-4
0.16933	576.2	180.7	40.0	0.0724	0.0	21.2	0.07	3.00E-4
0.16929	576.1	182.1	45.0	0.0922	0.0	21.2	0.07	3.00E-4
0.16925	576.0	183.4	50.0	0.112	0.0	21.2	0.07	3.00E-4
0.1692	575.9	184.8	55.0	0.132	0.0	21.2	0.07	3.00E-4
0.16914	575.8	186.2	60.0	0.152	0.0	21.2	0.07	3.00E-4
0.16909	575.8	187.5	65.0	0.172	0.0	21.2	0.07	3.00E-4
0.16902	575.7	188.9	70.0	0.191	0.0	21.2	0.07	3.00E-4
0.16896	575.7	190.2	75.0	0.211	0.0	21.2	0.07	3.00E-4
0.16889	575.7	191.5	80.0	0.231	0.0	21.2	0.07	3.00E-4
0.16882	575.7	192.8	85.0	0.251	0.0	21.2	0.07	3.00E-4
0.16873	575.7	194.2	90.0	0.271	0.0	21.2	0.07	3.00E-4
0.16864	575.8	195.4	95.0	0.291	0.0	21.2	0.07	3.00E-4
0.16854	575.9	196.7	100.0	0.31	0.0	21.2	0.07	3.00E-4
0.16843	576.0	198.0	105.0	0.33	0.0	21.2	0.07	3.00E-4
0.1683	576.2	199.3	110.0	0.35	0.0	21.2	0.07	3.00E-4
0.16816	576.4	200.6	115.0	0.37	0.0	21.2	0.07	3.00E-4
0.168	576.7	201.8	120.0	0.39	0.0	21.2	0.07	3.00E-4
0.16782	577.1	203.1	125.0	0.41	0.0	21.2	0.07	3.00E-4
0.16763	577.5	204.3	130.0	0.43	0.0	21.2	0.07	3.00E-4
0.16742	578.0	205.5	135.0	0.449	0.0	21.2	0.07	3.00E-4
0.16719	578.5	206.8	140.0	0.469	0.0	21.2	0.07	3.00E-4
0.16694	579.2	208.0	145.0	0.489	0.0	21.2	0.07	3.00E-4
0.16668	579.8	209.2	150.0	0.509	0.0	21.2	0.07	3.00E-4
0.16641	580.6	210.4	155.0	0.529	0.0	21.2	0.07	3.00E-4
0.16612	581.3	211.6	160.0	0.549	0.0	21.2	0.07	3.00E-4
0.16582	582.2	212.8	165.0	0.568	0.0	21.2	0.07	3.00E-4
0.1655	583.0	214.0	170.0	0.588	0.0	21.2	0.07	3.00E-4
0.16517	584.0	215.1	175.0	0.608	0.0	21.2	0.07	3.00E-4
0.16483	584.9	216.3	180.0	0.628	0.0	21.2	0.07	3.00E-4
0.16447	586.0	217.5	185.0	0.648	0.0	21.2	0.07	3.00E-4
0.16411	587.0	218.6	190.0	0.668	0.0	21.2	0.07	3.00E-4
0.16374	588.1	219.8	195.0	0.687	0.0	21.2	0.07	3.00E-4
0.16336	589.3	220.9	200.0	0.707	0.0	21.2	0.07	3.00E-4
0.16296	590.5	222.1	205.0	0.727	0.0	21.2	0.07	3.00E-4
0.16255	591.7	223.2	210.0	0.747	0.0	21.2	0.07	3.00E-4
0.16215	593.0	224.3	215.0	0.767	0.0	21.2	0.07	3.00E-4
0.16173	594.3	225.5	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.16131	595.6	226.6	225.0	0.807	0.0	21.2	0.07	3.00E-4
0.16087	597.0	227.7	230.0	0.826	0.0	21.2	0.07	3.00E-4
0.16043	598.4	228.8	235.0	0.846	0.0	21.2	0.07	3.00E-4
0.15997	599.9	229.9	240.0	0.866	0.0	21.2	0.07	3.00E-4
0.15953	601.3	231.0	245.0	0.886	0.0	21.2	0.07	3.00E-4
0.15908	602.8	232.1	250.0	0.906	0.0	21.2	0.07	3.00E-4
0.15862	604.3	233.2	255.0	0.926	0.0	21.2	0.07	3.00E-4
0.15816	605.8	234.3	260.0	0.945	0.0	21.2	0.07	3.00E-4
0.15577	607.4	235.3	265.0	0.965	0.0	21.2	0.07	3.00E-4
0.15723	608.9	236.4	270.0	0.985	0.0	21.2	0.07	3.00E-4
0.15677	610.5	237.5	275.0	1.005	0.0	21.2	0.07	3.00E-4
0.1563	612.1	238.5	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.15583	613.7	239.6	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.15536	615.3	240.6	290.0	1.064	0.0	21.2	0.07	3.00E-4
0.15488	617.0	241.7	295.0	1.084	0.0	21.2	0.07	3.00E-4
0.15441	618.6	242.7	300.0	1.104	0.0	21.2	0.07	3.00E-4
0.15393	620.3	243.8	305.0	1.124	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 44; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

----- Depth Amb-cur Amb-dir Amb-sal Amb-tem Amb-pol Solar rad

Kailua_avg8.txt								
Far-spd m/s	Far-dir m deg	Dispnsn m/s 0.67/s2	deg	psu	c	kg/kg	s-1	
0.07	0.0	0.07	90.0	34.91	25.72	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	34.91	25.69	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	34.92	25.66	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	34.92	25.66	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	34.93	25.65	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	34.93	25.64	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	34.93	25.63	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	34.93	25.62	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	34.94	25.59	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	34.94	25.59	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	34.95	25.61	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	34.93	25.6	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	34.94	25.58	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	34.94	25.56	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	34.95	25.55	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	34.95	25.55	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	34.95	25.55	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	34.94	25.55	0.0	0.000312	
	90.0	0.0003						
0.07	Ttl-flo Temp (MGD) (C)							
	15.25	28.04						
Froude number:	6.159							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.241	67.3	1.476	-0.239	0.349;	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;	
80	105.0	0.07	21.04	20.51	4.793	-1.465	2.403;	
100	104.4	0.07	28.35	13.8	7.112	-2.008	3.509;	
120	103.5	0.07	37.08	9.289	10.56	-2.514	4.718;	
140	102.2	0.07	47.68	6.251	15.68	-2.965	6.027;	
160	100.6	0.07	60.84	4.207	23.29	-3.363	7.495;	
180	98.52	0.07	77.33	2.831	34.59	-3.716	9.208;	
200	95.96	0.07	98.08	1.905	51.39	-4.031	11.27;	
220	92.85	0.07	124.2	1.282	76.36	-4.31	13.82;	
221	92.68	0.07	125.7	1.257	77.88	-4.323	13.96;	
240	87.98	0.07	166.8	0.863	113.4	-4.62	17.85;	
260	80.43	0.07	240.6	0.58	168.6	-4.952	24.03;	
280	69.09	0.07	361.0	0.391	250.5	-5.295	33.31;	
297	54.94	0.07	506.4	0.279	350.7	-5.599	44.98; axial vel	
0.0219 max dilution reached								

Kailua_avg8.txt							
300	51.87	0.07	537.2	0.263	372.2	-5.653	47.48;
320	27.3	0.07	849.8	0.177	553.0	-6.014	68.46;
322	24.41	0.07	893.3	0.17	575.4	-6.051	71.14; axial vel
0.0799 surface,							
Const Eddy Diffusivity.							
m							
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m0.67/s2)
(ppm)	(m)	(m)	(m)	(hrs)			
0.1692	577.4	176.4	25.0	0.0129	0.0	21.2	0.07 3.00E-4
0.16932	576.7	177.9	30.0	0.0327	0.0	21.2	0.07 3.00E-4
0.16934	576.4	179.3	35.0	0.0525	0.0	21.2	0.07 3.00E-4
0.16933	576.2	180.7	40.0	0.0724	0.0	21.2	0.07 3.00E-4
0.16929	576.1	182.1	45.0	0.0922	0.0	21.2	0.07 3.00E-4
0.16925	576.0	183.4	50.0	0.112	0.0	21.2	0.07 3.00E-4
0.1692	575.9	184.8	55.0	0.132	0.0	21.2	0.07 3.00E-4
0.16914	575.8	186.2	60.0	0.152	0.0	21.2	0.07 3.00E-4
0.16909	575.8	187.5	65.0	0.172	0.0	21.2	0.07 3.00E-4
0.16902	575.7	188.9	70.0	0.191	0.0	21.2	0.07 3.00E-4
0.16896	575.7	190.2	75.0	0.211	0.0	21.2	0.07 3.00E-4
0.16889	575.7	191.5	80.0	0.231	0.0	21.2	0.07 3.00E-4
0.16882	575.7	192.8	85.0	0.251	0.0	21.2	0.07 3.00E-4
0.16873	575.7	194.2	90.0	0.271	0.0	21.2	0.07 3.00E-4
0.16864	575.8	195.4	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.16854	575.9	196.7	100.0	0.31	0.0	21.2	0.07 3.00E-4
0.16843	576.0	198.0	105.0	0.33	0.0	21.2	0.07 3.00E-4
0.1683	576.2	199.3	110.0	0.35	0.0	21.2	0.07 3.00E-4
0.16816	576.4	200.6	115.0	0.37	0.0	21.2	0.07 3.00E-4
0.168	576.7	201.8	120.0	0.39	0.0	21.2	0.07 3.00E-4
0.16782	577.1	203.1	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.16763	577.5	204.3	130.0	0.43	0.0	21.2	0.07 3.00E-4
0.16742	578.0	205.5	135.0	0.449	0.0	21.2	0.07 3.00E-4
0.16719	578.5	206.8	140.0	0.469	0.0	21.2	0.07 3.00E-4
0.16694	579.2	208.0	145.0	0.489	0.0	21.2	0.07 3.00E-4
0.16668	579.8	209.2	150.0	0.509	0.0	21.2	0.07 3.00E-4
0.16641	580.6	210.4	155.0	0.529	0.0	21.2	0.07 3.00E-4
0.16612	581.3	211.6	160.0	0.549	0.0	21.2	0.07 3.00E-4
0.16582	582.2	212.8	165.0	0.568	0.0	21.2	0.07 3.00E-4
0.1655	583.0	214.0	170.0	0.588	0.0	21.2	0.07 3.00E-4
0.16517	584.0	215.1	175.0	0.608	0.0	21.2	0.07 3.00E-4
0.16483	584.9	216.3	180.0	0.628	0.0	21.2	0.07 3.00E-4
0.16447	586.0	217.5	185.0	0.648	0.0	21.2	0.07 3.00E-4
0.16411	587.0	218.6	190.0	0.668	0.0	21.2	0.07 3.00E-4
0.16374	588.1	219.8	195.0	0.687	0.0	21.2	0.07 3.00E-4
0.16336	589.3	220.9	200.0	0.707	0.0	21.2	0.07 3.00E-4
0.16296	590.5	222.1	205.0	0.727	0.0	21.2	0.07 3.00E-4
0.16255	591.7	223.2	210.0	0.747	0.0	21.2	0.07 3.00E-4
0.16215	593.0	224.3	215.0	0.767	0.0	21.2	0.07 3.00E-4
0.16173	594.3	225.5	220.0	0.787	0.0	21.2	0.07 3.00E-4
0.16131	595.6	226.6	225.0	0.807	0.0	21.2	0.07 3.00E-4
0.16087	597.0	227.7	230.0	0.826	0.0	21.2	0.07 3.00E-4
0.16043	598.4	228.8	235.0	0.846	0.0	21.2	0.07 3.00E-4
0.15997	599.9	229.9	240.0	0.866	0.0	21.2	0.07 3.00E-4
0.15953	601.3	231.0	245.0	0.886	0.0	21.2	0.07 3.00E-4
0.15908	602.8	232.1	250.0	0.906	0.0	21.2	0.07 3.00E-4
0.15862	604.3	233.2	255.0	0.926	0.0	21.2	0.07 3.00E-4
0.15816	605.8	234.3	260.0	0.945	0.0	21.2	0.07 3.00E-4
0.1577	607.4	235.3	265.0	0.965	0.0	21.2	0.07 3.00E-4
0.15723	608.9	236.4	270.0	0.985	0.0	21.2	0.07 3.00E-4
0.15677	610.5	237.5	275.0	1.005	0.0	21.2	0.07 3.00E-4
0.1563	612.1	238.5	280.0	1.025	0.0	21.2	0.07 3.00E-4
0.15583	613.7	239.6	285.0	1.045	0.0	21.2	0.07 3.00E-4
0.15536	615.3	240.6	290.0	1.064	0.0	21.2	0.07 3.00E-4
0.15488	617.0	241.7	295.0	1.084	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt

0.15441	618.6	242.7	300.0	1.104	0.0	21.2	0.07	3.00E-4
0.15393	620.3	243.8	305.0	1.124	0.0	21.2	0.07	3.00E-4
count: 57								
/ Windows UM3.								
Case 45; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:								
Far-spd m/s	Depth m	Amb-cur m/s	Amb-dir deg	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1	
Far-dir deg	Dispnsn m0.67/s2							
0.07	0.0	0.07	90.0	35.13	26.04	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.11	26.01	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.11	26.02	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.13	26.03	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.13	26.03	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.13	26.04	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.13	26.04	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.13	26.04	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.13	26.04	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.13	26.04	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.13	26.04	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.13	26.04	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.13	26.03	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.13	26.02	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.12	26.02	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.12	25.97	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.11	25.93	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.12	25.89	0.0	0.000312	
	90.0	0.0003						
Ttl-flo (MGD)	Temp (C)							
15.25	28.04							
Froude number: 6.158								
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.241	67.3	1.476	-0.239	0.349	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508	
80	105.0	0.07	21.04	20.51	4.793	-1.464	2.403	
100	104.4	0.07	28.35	13.8	7.112	-2.008	3.509	
120	103.5	0.07	37.08	9.289	10.56	-2.514	4.718	
140	102.2	0.07	47.69	6.251	15.68	-2.965	6.027	
160	100.6	0.07	60.85	4.207	23.29	-3.363	7.496	
180	98.52	0.07	77.36	2.831	34.59	-3.717	9.209	
200	95.97	0.07	98.18	1.905	51.39	-4.031	11.27	

				Kailua_avg8.txt			
220	92.87	0.07	124.5	1.282	76.36	-4.311	13.82;
221	92.7	0.07	126.0	1.257	77.88	-4.324	13.97; merging,
240	88.02	0.07	167.9	0.863	113.5	-4.624	17.9;
260	80.42	0.07	239.9	0.58	168.6	-4.959	24.13;
280	68.89	0.07	353.0	0.391	250.5	-5.3	33.35;
297	54.62	0.07	495.0	0.279	350.7	-5.594	44.63; axial vel
0.022	max dilution reached						
300	51.54	0.07	525.4	0.263	372.2	-5.646	47.05;
320	25.47	0.07	781.9	0.177	553.0	-5.996	67.4; axial vel
0.0745							
323	20.53	0.07	828.4	0.167	586.9	-6.049	71.21; surface,
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of	m					173.85

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16588	589.0	174.8	25.0	0.0128	0.0	21.2	0.07 3.00E-4
0.166	588.3	176.2	30.0	0.0326	0.0	21.2	0.07 3.00E-4
0.16602	587.9	177.6	35.0	0.0525	0.0	21.2	0.07 3.00E-4
0.16601	587.7	179.0	40.0	0.0723	0.0	21.2	0.07 3.00E-4
0.16597	587.6	180.4	45.0	0.0921	0.0	21.2	0.07 3.00E-4
0.16593	587.5	181.8	50.0	0.112	0.0	21.2	0.07 3.00E-4
0.16588	587.4	183.1	55.0	0.132	0.0	21.2	0.07 3.00E-4
0.16583	587.3	184.5	60.0	0.152	0.0	21.2	0.07 3.00E-4
0.16577	587.3	185.8	65.0	0.171	0.0	21.2	0.07 3.00E-4
0.16571	587.2	187.2	70.0	0.191	0.0	21.2	0.07 3.00E-4
0.16565	587.2	188.5	75.0	0.211	0.0	21.2	0.07 3.00E-4
0.16558	587.2	189.8	80.0	0.231	0.0	21.2	0.07 3.00E-4
0.1655	587.2	191.1	85.0	0.251	0.0	21.2	0.07 3.00E-4
0.16542	587.2	192.4	90.0	0.271	0.0	21.2	0.07 3.00E-4
0.16533	587.3	193.7	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.16523	587.4	195.0	100.0	0.31	0.0	21.2	0.07 3.00E-4
0.16512	587.5	196.3	105.0	0.33	0.0	21.2	0.07 3.00E-4
0.16499	587.7	197.6	110.0	0.35	0.0	21.2	0.07 3.00E-4
0.16485	588.0	198.8	115.0	0.37	0.0	21.2	0.07 3.00E-4
0.16469	588.3	200.1	120.0	0.39	0.0	21.2	0.07 3.00E-4
0.16452	588.7	201.3	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.16433	589.1	202.5	130.0	0.429	0.0	21.2	0.07 3.00E-4
0.16412	589.6	203.8	135.0	0.449	0.0	21.2	0.07 3.00E-4
0.16389	590.2	205.0	140.0	0.469	0.0	21.2	0.07 3.00E-4
0.16364	590.9	206.2	145.0	0.489	0.0	21.2	0.07 3.00E-4
0.16338	591.5	207.4	150.0	0.509	0.0	21.2	0.07 3.00E-4
0.16311	592.3	208.6	155.0	0.529	0.0	21.2	0.07 3.00E-4
0.16283	593.1	209.8	160.0	0.548	0.0	21.2	0.07 3.00E-4
0.16253	593.9	211.0	165.0	0.568	0.0	21.2	0.07 3.00E-4
0.16221	594.9	212.2	170.0	0.588	0.0	21.2	0.07 3.00E-4
0.16188	595.8	213.3	175.0	0.608	0.0	21.2	0.07 3.00E-4
0.16154	596.8	214.5	180.0	0.628	0.0	21.2	0.07 3.00E-4
0.16119	597.9	215.7	185.0	0.648	0.0	21.2	0.07 3.00E-4
0.16084	599.0	216.8	190.0	0.668	0.0	21.2	0.07 3.00E-4
0.16046	600.1	218.0	195.0	0.687	0.0	21.2	0.07 3.00E-4
0.16008	601.3	219.1	200.0	0.707	0.0	21.2	0.07 3.00E-4
0.15969	602.6	220.2	205.0	0.727	0.0	21.2	0.07 3.00E-4
0.15929	603.9	221.4	210.0	0.747	0.0	21.2	0.07 3.00E-4
0.15889	605.1	222.5	215.0	0.767	0.0	21.2	0.07 3.00E-4
0.15848	606.5	223.6	220.0	0.787	0.0	21.2	0.07 3.00E-4
0.15805	607.9	224.7	225.0	0.806	0.0	21.2	0.07 3.00E-4
0.15763	609.3	225.8	230.0	0.826	0.0	21.2	0.07 3.00E-4
0.15719	610.7	226.9	235.0	0.846	0.0	21.2	0.07 3.00E-4
0.15674	612.2	228.0	240.0	0.866	0.0	21.2	0.07 3.00E-4
0.1563	613.7	229.1	245.0	0.886	0.0	21.2	0.07 3.00E-4
0.15585	615.3	230.2	250.0	0.906	0.0	21.2	0.07 3.00E-4
0.1554	616.8	231.3	255.0	0.925	0.0	21.2	0.07 3.00E-4
0.15495	618.4	232.4	260.0	0.945	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt

0.15449	620.0	233.4	265.0	0.965	0.0	21.2	0.07	3.00E-4
0.15402	621.6	234.5	270.0	0.985	0.0	21.2	0.07	3.00E-4
0.15357	623.2	235.6	275.0	1.005	0.0	21.2	0.07	3.00E-4
0.15311	624.8	236.6	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.15265	626.5	237.7	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.15218	628.2	238.7	290.0	1.064	0.0	21.2	0.07	3.00E-4
0.15171	629.9	239.8	295.0	1.084	0.0	21.2	0.07	3.00E-4
0.15124	631.6	240.8	300.0	1.104	0.0	21.2	0.07	3.00E-4
0.15077	633.3	241.8	305.0	1.124	0.0	21.2	0.07	3.00E-4

count: 57
/ Windows UM3.

Case 46; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal	Amb-tem	Amb-pol	Solar rad s-1
					psu	c	kg/kg	
0.07	0.0	0.07	90.0	0.0003	35.13	26.04	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.11	26.01	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.11	26.02	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.13	26.03	0.0	0.000312
0.07	8.0	0.07	90.0	0.0003	35.13	26.03	0.0	0.000312
0.07	10.0	0.07	90.0	0.0003	35.13	26.04	0.0	0.000312
0.07	12.0	0.07	90.0	0.0003	35.13	26.04	0.0	0.000312
0.07	14.0	0.07	90.0	0.0003	35.13	26.04	0.0	0.000312
0.07	16.0	0.07	90.0	0.0003	35.13	26.04	0.0	0.000312
0.07	18.0	0.07	90.0	0.0003	35.13	26.04	0.0	0.000312
0.07	20.0	0.07	90.0	0.0003	35.13	26.04	0.0	0.000312
0.07	22.0	0.07	90.0	0.0003	35.13	26.04	0.0	0.000312
0.07	24.0	0.07	90.0	0.0003	35.13	26.03	0.0	0.000312
0.07	26.0	0.07	90.0	0.0003	35.13	26.02	0.0	0.000312
0.07	28.0	0.07	90.0	0.0003	35.12	26.02	0.0	0.000312
0.07	30.0	0.07	90.0	0.0003	35.12	25.97	0.0	0.000312
0.07	32.0	0.07	90.0	0.0003	35.11	25.93	0.0	0.000312
0.07	33.0	0.07	90.0	0.0003	35.12	25.89	0.0	0.000312
0.07	90.0	0.0003						
	Ttl-flo (MGD)	Temp (C)						
	15.25	28.04						

Froude number: 6.158

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.241	67.3	1.476	-0.239	0.349
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508

Kailua_avg8.txt

80	105.0	0.07	21.04	20.51	4.793	-1.464	2.403;
100	104.4	0.07	28.35	13.8	7.112	-2.008	3.509;
120	103.5	0.07	37.08	9.289	10.56	-2.514	4.718;
140	102.2	0.07	47.69	6.251	15.68	-2.965	6.027;
160	100.6	0.07	60.85	4.207	23.29	-3.363	7.496;
180	98.52	0.07	77.36	2.831	34.59	-3.717	9.209;
200	95.97	0.07	98.18	1.905	51.39	-4.031	11.27;
220	92.87	0.07	124.5	1.282	76.36	-4.311	13.82;
221	92.7	0.07	126.0	1.257	77.88	-4.324	13.97; merging,
240	88.02	0.07	167.9	0.863	113.5	-4.624	17.9;
260	80.42	0.07	239.9	0.58	168.6	-4.959	24.13;
280	68.89	0.07	353.0	0.391	250.5	-5.3	33.35;
297	54.62	0.07	495.0	0.279	350.7	-5.594	44.63; axial vel
0.022	max dilution reached						
300	51.54	0.07	525.4	0.263	372.2	-5.646	47.05;
320	25.47	0.07	781.9	0.177	553.0	-5.996	67.4; axial vel
0.0745							
323	20.53	0.07	828.4	0.167	586.9	-6.049	71.21; surface,
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of							173.85
m							

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m0.67/s2)
0.16588	589.0	174.8	25.0	0.0128	0.0	21.2	0.07 3.00E-4
0.166	588.3	176.2	30.0	0.0326	0.0	21.2	0.07 3.00E-4
0.16602	587.9	177.6	35.0	0.0525	0.0	21.2	0.07 3.00E-4
0.16601	587.7	179.0	40.0	0.0723	0.0	21.2	0.07 3.00E-4
0.16597	587.6	180.4	45.0	0.0921	0.0	21.2	0.07 3.00E-4
0.16593	587.5	181.8	50.0	0.112	0.0	21.2	0.07 3.00E-4
0.16588	587.4	183.1	55.0	0.132	0.0	21.2	0.07 3.00E-4
0.16583	587.3	184.5	60.0	0.152	0.0	21.2	0.07 3.00E-4
0.16577	587.3	185.8	65.0	0.171	0.0	21.2	0.07 3.00E-4
0.16571	587.2	187.2	70.0	0.191	0.0	21.2	0.07 3.00E-4
0.16565	587.2	188.5	75.0	0.211	0.0	21.2	0.07 3.00E-4
0.16558	587.2	189.8	80.0	0.231	0.0	21.2	0.07 3.00E-4
0.1655	587.2	191.1	85.0	0.251	0.0	21.2	0.07 3.00E-4
0.16542	587.2	192.4	90.0	0.271	0.0	21.2	0.07 3.00E-4
0.16533	587.3	193.7	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.16523	587.4	195.0	100.0	0.31	0.0	21.2	0.07 3.00E-4
0.16512	587.5	196.3	105.0	0.33	0.0	21.2	0.07 3.00E-4
0.16499	587.7	197.6	110.0	0.35	0.0	21.2	0.07 3.00E-4
0.16485	588.0	198.8	115.0	0.37	0.0	21.2	0.07 3.00E-4
0.16469	588.3	200.1	120.0	0.39	0.0	21.2	0.07 3.00E-4
0.16452	588.7	201.3	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.16433	589.1	202.5	130.0	0.429	0.0	21.2	0.07 3.00E-4
0.16412	589.6	203.8	135.0	0.449	0.0	21.2	0.07 3.00E-4
0.16389	590.2	205.0	140.0	0.469	0.0	21.2	0.07 3.00E-4
0.16364	590.9	206.2	145.0	0.489	0.0	21.2	0.07 3.00E-4
0.16338	591.5	207.4	150.0	0.509	0.0	21.2	0.07 3.00E-4
0.16311	592.3	208.6	155.0	0.529	0.0	21.2	0.07 3.00E-4
0.16283	593.1	209.8	160.0	0.548	0.0	21.2	0.07 3.00E-4
0.16253	593.9	211.0	165.0	0.568	0.0	21.2	0.07 3.00E-4
0.16221	594.9	212.2	170.0	0.588	0.0	21.2	0.07 3.00E-4
0.16188	595.8	213.3	175.0	0.608	0.0	21.2	0.07 3.00E-4
0.16154	596.8	214.5	180.0	0.628	0.0	21.2	0.07 3.00E-4
0.16119	597.9	215.7	185.0	0.648	0.0	21.2	0.07 3.00E-4
0.16084	599.0	216.8	190.0	0.668	0.0	21.2	0.07 3.00E-4
0.16046	600.1	218.0	195.0	0.687	0.0	21.2	0.07 3.00E-4
0.16008	601.3	219.1	200.0	0.707	0.0	21.2	0.07 3.00E-4
0.15969	602.6	220.2	205.0	0.727	0.0	21.2	0.07 3.00E-4
0.15929	603.9	221.4	210.0	0.747	0.0	21.2	0.07 3.00E-4
0.15889	605.1	222.5	215.0	0.767	0.0	21.2	0.07 3.00E-4
0.15848	606.5	223.6	220.0	0.787	0.0	21.2	0.07 3.00E-4
0.15805	607.9	224.7	225.0	0.806	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt							
0.15763	609.3	225.8	230.0	0.826	0.0	21.2	0.07 3.00E-4
0.15719	610.7	226.9	235.0	0.846	0.0	21.2	0.07 3.00E-4
0.15674	612.2	228.0	240.0	0.866	0.0	21.2	0.07 3.00E-4
0.1563	613.7	229.1	245.0	0.886	0.0	21.2	0.07 3.00E-4
0.15585	615.3	230.2	250.0	0.906	0.0	21.2	0.07 3.00E-4
0.1554	616.8	231.3	255.0	0.925	0.0	21.2	0.07 3.00E-4
0.15495	618.4	232.4	260.0	0.945	0.0	21.2	0.07 3.00E-4
0.15449	620.0	233.4	265.0	0.965	0.0	21.2	0.07 3.00E-4
0.15402	621.6	234.5	270.0	0.985	0.0	21.2	0.07 3.00E-4
0.15357	623.2	235.6	275.0	1.005	0.0	21.2	0.07 3.00E-4
0.15311	624.8	236.6	280.0	1.025	0.0	21.2	0.07 3.00E-4
0.15265	626.5	237.7	285.0	1.045	0.0	21.2	0.07 3.00E-4
0.15218	628.2	238.7	290.0	1.064	0.0	21.2	0.07 3.00E-4
0.15171	629.9	239.8	295.0	1.084	0.0	21.2	0.07 3.00E-4
0.15124	631.6	240.8	300.0	1.104	0.0	21.2	0.07 3.00E-4
0.15077	633.3	241.8	305.0	1.124	0.0	21.2	0.07 3.00E-4

count: 57

/ windows UM3.

Case 47; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar rad
	Far-dir deg	Disprsn m/s ^{0.67} /s ²	deg	psu	C	kg/kg	s-1
0.07	0.0	0.07 0.0003	90.0	35.13	26.04	0.0	0.000312
0.07	2.0	0.07 0.0003	90.0	35.11	26.01	0.0	0.000312
0.07	4.0	0.07 0.0003	90.0	35.11	26.02	0.0	0.000312
0.07	6.0	0.07 0.0003	90.0	35.13	26.03	0.0	0.000312
0.07	8.0	0.07 0.0003	90.0	35.13	26.03	0.0	0.000312
0.07	10.0	0.07 0.0003	90.0	35.13	26.04	0.0	0.000312
0.07	12.0	0.07 0.0003	90.0	35.13	26.04	0.0	0.000312
0.07	14.0	0.07 0.0003	90.0	35.13	26.04	0.0	0.000312
0.07	16.0	0.07 0.0003	90.0	35.13	26.04	0.0	0.000312
0.07	18.0	0.07 0.0003	90.0	35.13	26.04	0.0	0.000312
0.07	20.0	0.07 0.0003	90.0	35.13	26.04	0.0	0.000312
0.07	22.0	0.07 0.0003	90.0	35.13	26.04	0.0	0.000312
0.07	24.0	0.07 0.0003	90.0	35.13	26.03	0.0	0.000312
0.07	26.0	0.07 0.0003	90.0	35.13	26.02	0.0	0.000312
0.07	28.0	0.07 0.0003	90.0	35.12	26.02	0.0	0.000312
0.07	30.0	0.07 0.0003	90.0	35.12	25.97	0.0	0.000312
0.07	32.0	0.07 0.0003	90.0	35.11	25.93	0.0	0.000312
0.07	33.0	0.07 0.0003	90.0	35.12	25.89	0.0	0.000312
0.07	90.0	0.0003					
	Ttl-flo (MGD)	Temp (C)					
	15.25	28.04					

Kailua_avg8.txt

Froude number: 6.158

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.241	67.3	1.476	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;
80	105.0	0.07	21.04	20.51	4.793	-1.464	2.403;
100	104.4	0.07	28.35	13.8	7.112	-2.008	3.509;
120	103.5	0.07	37.08	9.289	10.56	-2.514	4.718;
140	102.2	0.07	47.69	6.251	15.68	-2.965	6.027;
160	100.6	0.07	60.85	4.207	23.29	-3.363	7.496;
180	98.52	0.07	77.36	2.831	34.59	-3.717	9.209;
200	95.97	0.07	98.18	1.905	51.39	-4.031	11.27;
220	92.87	0.07	124.5	1.282	76.36	-4.311	13.82;
221	92.7	0.07	126.0	1.257	77.88	-4.324	13.97; merging,
240	88.02	0.07	167.9	0.863	113.5	-4.624	17.9;
260	80.42	0.07	239.9	0.58	168.6	-4.959	24.13;
280	68.89	0.07	353.0	0.391	250.5	-5.3	33.35;
297	54.62	0.07	495.0	0.279	350.7	-5.594	44.63; axial vel
0.022	max dilution reached						
300	51.54	0.07	525.4	0.263	372.2	-5.646	47.05;
320	25.47	0.07	781.9	0.177	553.0	-5.996	67.4; axial vel

0.0745

323 20.53 0.07 828.4 0.167 586.9 -6.049 71.21; surface,
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 173.85
m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	conc (ppm)	rate (ly/hr)	vel (m/s)(m ^{0.67} /s ²)
0.16588	589.0	174.8	25.0	0.0128	0.0	21.2	0.07 3.00E-4
0.166	588.3	176.2	30.0	0.0326	0.0	21.2	0.07 3.00E-4
0.16602	587.9	177.6	35.0	0.0525	0.0	21.2	0.07 3.00E-4
0.16601	587.7	179.0	40.0	0.0723	0.0	21.2	0.07 3.00E-4
0.16597	587.6	180.4	45.0	0.0921	0.0	21.2	0.07 3.00E-4
0.16593	587.5	181.8	50.0	0.112	0.0	21.2	0.07 3.00E-4
0.16588	587.4	183.1	55.0	0.132	0.0	21.2	0.07 3.00E-4
0.16583	587.3	184.5	60.0	0.152	0.0	21.2	0.07 3.00E-4
0.16577	587.3	185.8	65.0	0.171	0.0	21.2	0.07 3.00E-4
0.16571	587.2	187.2	70.0	0.191	0.0	21.2	0.07 3.00E-4
0.16565	587.2	188.5	75.0	0.211	0.0	21.2	0.07 3.00E-4
0.16558	587.2	189.8	80.0	0.231	0.0	21.2	0.07 3.00E-4
0.1655	587.2	191.1	85.0	0.251	0.0	21.2	0.07 3.00E-4
0.16542	587.2	192.4	90.0	0.271	0.0	21.2	0.07 3.00E-4
0.16533	587.3	193.7	95.0	0.291	0.0	21.2	0.07 3.00E-4
0.16523	587.4	195.0	100.0	0.31	0.0	21.2	0.07 3.00E-4
0.16512	587.5	196.3	105.0	0.33	0.0	21.2	0.07 3.00E-4
0.16499	587.7	197.6	110.0	0.35	0.0	21.2	0.07 3.00E-4
0.16485	588.0	198.8	115.0	0.37	0.0	21.2	0.07 3.00E-4
0.16469	588.3	200.1	120.0	0.39	0.0	21.2	0.07 3.00E-4
0.16452	588.7	201.3	125.0	0.41	0.0	21.2	0.07 3.00E-4
0.16433	589.1	202.5	130.0	0.429	0.0	21.2	0.07 3.00E-4
0.16412	589.6	203.8	135.0	0.449	0.0	21.2	0.07 3.00E-4
0.16389	590.2	205.0	140.0	0.469	0.0	21.2	0.07 3.00E-4
0.16364	590.9	206.2	145.0	0.489	0.0	21.2	0.07 3.00E-4
0.16338	591.5	207.4	150.0	0.509	0.0	21.2	0.07 3.00E-4
0.16311	592.3	208.6	155.0	0.529	0.0	21.2	0.07 3.00E-4
0.16283	593.1	209.8	160.0	0.548	0.0	21.2	0.07 3.00E-4
0.16253	593.9	211.0	165.0	0.568	0.0	21.2	0.07 3.00E-4
0.16221	594.9	212.2	170.0	0.588	0.0	21.2	0.07 3.00E-4
0.16188	595.8	213.3	175.0	0.608	0.0	21.2	0.07 3.00E-4
0.16154	596.8	214.5	180.0	0.628	0.0	21.2	0.07 3.00E-4
0.16119	597.9	215.7	185.0	0.648	0.0	21.2	0.07 3.00E-4
0.16084	599.0	216.8	190.0	0.668	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt

0.16046	600.1	218.0	195.0	0.687	0.0	21.2	0.07	3.00E-4
0.16008	601.3	219.1	200.0	0.707	0.0	21.2	0.07	3.00E-4
0.15969	602.6	220.2	205.0	0.727	0.0	21.2	0.07	3.00E-4
0.15929	603.9	221.4	210.0	0.747	0.0	21.2	0.07	3.00E-4
0.15889	605.1	222.5	215.0	0.767	0.0	21.2	0.07	3.00E-4
0.15848	606.5	223.6	220.0	0.787	0.0	21.2	0.07	3.00E-4
0.15805	607.9	224.7	225.0	0.806	0.0	21.2	0.07	3.00E-4
0.15763	609.3	225.8	230.0	0.826	0.0	21.2	0.07	3.00E-4
0.15719	610.7	226.9	235.0	0.846	0.0	21.2	0.07	3.00E-4
0.15674	612.2	228.0	240.0	0.866	0.0	21.2	0.07	3.00E-4
0.1563	613.7	229.1	245.0	0.886	0.0	21.2	0.07	3.00E-4
0.15585	615.3	230.2	250.0	0.906	0.0	21.2	0.07	3.00E-4
0.1554	616.8	231.3	255.0	0.925	0.0	21.2	0.07	3.00E-4
0.15495	618.4	232.4	260.0	0.945	0.0	21.2	0.07	3.00E-4
0.15449	620.0	233.4	265.0	0.965	0.0	21.2	0.07	3.00E-4
0.15402	621.6	234.5	270.0	0.985	0.0	21.2	0.07	3.00E-4
0.15357	623.2	235.6	275.0	1.005	0.0	21.2	0.07	3.00E-4
0.15311	624.8	236.6	280.0	1.025	0.0	21.2	0.07	3.00E-4
0.15265	626.5	237.7	285.0	1.045	0.0	21.2	0.07	3.00E-4
0.15218	628.2	238.7	290.0	1.064	0.0	21.2	0.07	3.00E-4
0.15171	629.9	239.8	295.0	1.084	0.0	21.2	0.07	3.00E-4
0.15124	631.6	240.8	300.0	1.104	0.0	21.2	0.07	3.00E-4
0.15077	633.3	241.8	305.0	1.124	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 48; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur Far-dir deg	Amb-dir Disprsn m/s ^{0.67/s²}	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
0.07	0.0	0.07	90.0	35.22	23.7	0.0	0.000312
0.07	90.0	0.0003					
0.07	2.0	0.07	90.0	35.23	23.69	0.0	0.000312
0.07	90.0	0.0003					
0.07	4.0	0.07	90.0	35.23	23.71	0.0	0.000312
0.07	90.0	0.0003					
0.07	6.0	0.07	90.0	35.24	23.72	0.0	0.000312
0.07	90.0	0.0003					
0.07	8.0	0.07	90.0	35.24	23.74	0.0	0.000312
0.07	90.0	0.0003					
0.07	10.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	90.0	0.0003					
0.07	12.0	0.07	90.0	35.24	23.74	0.0	0.000312
0.07	90.0	0.0003					
0.07	14.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	90.0	0.0003					
0.07	16.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	90.0	0.0003					
0.07	18.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	90.0	0.0003					
0.07	20.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	90.0	0.0003					
0.07	22.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	90.0	0.0003					
0.07	24.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	90.0	0.0003					
0.07	26.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	90.0	0.0003					
0.07	28.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	90.0	0.0003					
0.07	30.0	0.07	90.0	35.24	23.73	0.0	0.000312
0.07	90.0	0.0003					

Kailua_avg8.txt

0.07	32.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
Ttl-flo	Temp						
(MGD)	(C)						
15.25	28.04						
Froude number:	6.053						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.181	-0.558	0.837;
60	105.3	0.07	15.04	30.48	3.231	-0.966	1.507;
80	105.0	0.07	20.99	20.51	4.79	-1.462	2.4;
100	104.4	0.07	28.24	13.8	7.107	-2.001	3.496;
120	103.5	0.07	36.87	9.289	10.55	-2.502	4.69;
140	102.2	0.07	47.36	6.251	15.67	-2.946	5.983;
160	100.5	0.07	60.4	4.207	23.27	-3.339	7.432;
180	98.42	0.07	76.76	2.831	34.57	-3.688	9.122;
200	95.84	0.07	97.37	1.905	51.35	-3.999	11.16;
220	92.69	0.07	123.3	1.282	76.3	-4.275	13.68;
222	92.34	0.07	126.3	1.232	79.38	-4.3	13.96; merging,
240	87.84	0.07	165.0	0.863	113.4	-4.577	17.62;
260	80.21	0.07	235.7	0.58	168.4	-4.902	23.67;
280	68.6	0.07	345.0	0.391	250.3	-5.234	32.64;
297	54.18	0.07	480.8	0.279	350.5	-5.519	43.55; axial vel
0.0222	max dilution reached						
300	51.08	0.07	510.0	0.263	371.9	-5.569	45.88;
320	24.85	0.07	759.6	0.177	552.6	-5.905	65.41; axial vel
0.0762							
323	19.93	0.07	807.1	0.167	586.4	-5.956	69.07; surface,
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of	173.30	m				
conc	dilutn	width	distnce	time			
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16592	588.4	174.4	25.0	0.0154	0.0	21.2	0.07 3.00E-4
0.16602	587.8	175.8	30.0	0.0352	0.0	21.2	0.07 3.00E-4
0.16603	587.4	177.2	35.0	0.055	0.0	21.2	0.07 3.00E-4
0.16601	587.3	178.6	40.0	0.0749	0.0	21.2	0.07 3.00E-4
0.16598	587.1	180.0	45.0	0.0947	0.0	21.2	0.07 3.00E-4
0.16593	587.0	181.4	50.0	0.115	0.0	21.2	0.07 3.00E-4
0.16588	586.9	182.8	55.0	0.134	0.0	21.2	0.07 3.00E-4
0.16583	586.9	184.1	60.0	0.154	0.0	21.2	0.07 3.00E-4
0.16577	586.8	185.5	65.0	0.174	0.0	21.2	0.07 3.00E-4
0.16571	586.8	186.8	70.0	0.194	0.0	21.2	0.07 3.00E-4
0.16565	586.7	188.1	75.0	0.214	0.0	21.2	0.07 3.00E-4
0.16558	586.7	189.4	80.0	0.234	0.0	21.2	0.07 3.00E-4
0.1655	586.7	190.7	85.0	0.253	0.0	21.2	0.07 3.00E-4
0.16542	586.8	192.0	90.0	0.273	0.0	21.2	0.07 3.00E-4
0.16533	586.9	193.3	95.0	0.293	0.0	21.2	0.07 3.00E-4
0.16523	587.0	194.6	100.0	0.313	0.0	21.2	0.07 3.00E-4
0.16511	587.1	195.9	105.0	0.333	0.0	21.2	0.07 3.00E-4
0.16498	587.3	197.1	110.0	0.353	0.0	21.2	0.07 3.00E-4
0.16484	587.6	198.4	115.0	0.373	0.0	21.2	0.07 3.00E-4
0.16468	587.9	199.7	120.0	0.392	0.0	21.2	0.07 3.00E-4
0.1645	588.3	200.9	125.0	0.412	0.0	21.2	0.07 3.00E-4
0.1643	588.8	202.1	130.0	0.432	0.0	21.2	0.07 3.00E-4
0.16409	589.3	203.3	135.0	0.452	0.0	21.2	0.07 3.00E-4
0.16386	589.9	204.6	140.0	0.472	0.0	21.2	0.07 3.00E-4
0.16361	590.5	205.8	145.0	0.492	0.0	21.2	0.07 3.00E-4
0.16335	591.2	207.0	150.0	0.511	0.0	21.2	0.07 3.00E-4
0.16307	592.0	208.2	155.0	0.531	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt

0.16278	592.8	209.4	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.16248	593.7	210.6	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.16216	594.6	211.7	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.16183	595.6	212.9	175.0	0.611	0.0	21.2	0.07	3.00E-4
0.16149	596.6	214.1	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.16114	597.7	215.2	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.16078	598.8	216.4	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.1604	599.9	217.5	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.16002	601.1	218.7	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.15963	602.4	219.8	205.0	0.73	0.0	21.2	0.07	3.00E-4
0.15923	603.6	220.9	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.15882	605.0	222.0	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.1584	606.3	223.2	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.15798	607.7	224.3	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.15755	609.1	225.4	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.15711	610.6	226.5	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.15666	612.1	227.6	240.0	0.869	0.0	21.2	0.07	3.00E-4
0.15622	613.6	228.7	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.15577	615.1	229.7	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.15532	616.7	230.8	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.15486	618.3	231.9	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.1544	619.9	233.0	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.15395	621.5	234.0	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.15349	623.1	235.1	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.15302	624.7	236.1	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.15256	626.4	237.2	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.15209	628.1	238.2	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.15162	629.8	239.3	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.15115	631.5	240.3	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.15068	633.3	241.3	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 49; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur		Amb-dir deg	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
		Far-dir deg	Disprsn m0.67/s2	deg				
0.07	0.0	90.0	0.0003	90.0	35.22	23.7	0.0	0.000312
0.07	2.0	90.0	0.0003	90.0	35.23	23.69	0.0	0.000312
0.07	4.0	90.0	0.0003	90.0	35.23	23.71	0.0	0.000312
0.07	6.0	90.0	0.0003	90.0	35.24	23.72	0.0	0.000312
0.07	8.0	90.0	0.0003	90.0	35.24	23.74	0.0	0.000312
0.07	10.0	90.0	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	12.0	90.0	0.0003	90.0	35.24	23.74	0.0	0.000312
0.07	14.0	90.0	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	16.0	90.0	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	18.0	90.0	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	20.0	90.0	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	22.0	90.0	0.0003	90.0	35.24	23.73	0.0	0.000312
0.07	24.0	90.0	0.0003	90.0	35.24	23.73	0.0	0.000312

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0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.053							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.51	45.29	2.181	-0.558	0.837	
60	105.3	0.07	15.04	30.48	3.231	-0.966	1.507	
80	105.0	0.07	20.99	20.51	4.79	-1.462	2.4	
100	104.4	0.07	28.24	13.8	7.107	-2.001	3.496	
120	103.5	0.07	36.87	9.289	10.55	-2.502	4.69	
140	102.2	0.07	47.36	6.251	15.67	-2.946	5.983	
160	100.5	0.07	60.4	4.207	23.27	-3.339	7.432	
180	98.42	0.07	76.76	2.831	34.57	-3.688	9.122	
200	95.84	0.07	97.37	1.905	51.35	-3.999	11.16	
220	92.69	0.07	123.3	1.282	76.3	-4.275	13.68	
222	92.34	0.07	126.3	1.232	79.38	-4.3	13.96	
240	87.84	0.07	165.0	0.863	113.4	-4.577	17.62	
260	80.21	0.07	235.7	0.58	168.4	-4.902	23.67	
280	68.6	0.07	345.0	0.391	250.3	-5.234	32.64	
297	54.18	0.07	480.8	0.279	350.5	-5.519	43.55	
0.0222	max dilution reached						axial vel	
300	51.08	0.07	510.0	0.263	371.9	-5.569	45.88	
320	24.85	0.07	759.6	0.177	552.6	-5.905	65.41	
0.0762							axial vel	
323	19.93	0.07	807.1	0.167	586.4	-5.956	69.07	
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						173.30	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr) (m/s) (m ^{0.67} /s ²)	
0.16592	588.4	174.4	25.0	0.0154	0.0	21.2	0.07 3.00E-4	
0.16602	587.8	175.8	30.0	0.0352	0.0	21.2	0.07 3.00E-4	
0.16603	587.4	177.2	35.0	0.055	0.0	21.2	0.07 3.00E-4	
0.16601	587.3	178.6	40.0	0.0749	0.0	21.2	0.07 3.00E-4	
0.16598	587.1	180.0	45.0	0.0947	0.0	21.2	0.07 3.00E-4	
0.16593	587.0	181.4	50.0	0.115	0.0	21.2	0.07 3.00E-4	
0.16588	586.9	182.8	55.0	0.134	0.0	21.2	0.07 3.00E-4	
0.16583	586.9	184.1	60.0	0.154	0.0	21.2	0.07 3.00E-4	
0.16577	586.8	185.5	65.0	0.174	0.0	21.2	0.07 3.00E-4	
0.16571	586.8	186.8	70.0	0.194	0.0	21.2	0.07 3.00E-4	
0.16565	586.7	188.1	75.0	0.214	0.0	21.2	0.07 3.00E-4	
0.16558	586.7	189.4	80.0	0.234	0.0	21.2	0.07 3.00E-4	
0.16555	586.7	190.7	85.0	0.253	0.0	21.2	0.07 3.00E-4	
0.16542	586.8	192.0	90.0	0.273	0.0	21.2	0.07 3.00E-4	
0.16533	586.9	193.3	95.0	0.293	0.0	21.2	0.07 3.00E-4	
0.16523	587.0	194.6	100.0	0.313	0.0	21.2	0.07 3.00E-4	
0.16511	587.1	195.9	105.0	0.333	0.0	21.2	0.07 3.00E-4	
0.16498	587.3	197.1	110.0	0.353	0.0	21.2	0.07 3.00E-4	
0.16484	587.6	198.4	115.0	0.373	0.0	21.2	0.07 3.00E-4	
0.16468	587.9	199.7	120.0	0.392	0.0	21.2	0.07 3.00E-4	

Kailua_avg8.txt

0.1645	588.3	200.9	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.1643	588.8	202.1	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.16409	589.3	203.3	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.16386	589.9	204.6	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.16361	590.5	205.8	145.0	0.492	0.0	21.2	0.07	3.00E-4
0.16335	591.2	207.0	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.16307	592.0	208.2	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.16278	592.8	209.4	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.16248	593.7	210.6	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.16216	594.6	211.7	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.16183	595.6	212.9	175.0	0.611	0.0	21.2	0.07	3.00E-4
0.16149	596.6	214.1	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.16114	597.7	215.2	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.16078	598.8	216.4	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.1604	599.9	217.5	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.16002	601.1	218.7	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.15963	602.4	219.8	205.0	0.73	0.0	21.2	0.07	3.00E-4
0.15923	603.6	220.9	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.15882	605.0	222.0	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.1584	606.3	223.2	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.15798	607.7	224.3	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.15755	609.1	225.4	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.15711	610.6	226.5	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.15666	612.1	227.6	240.0	0.869	0.0	21.2	0.07	3.00E-4
0.15622	613.6	228.7	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.15577	615.1	229.7	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.15532	616.7	230.8	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.15486	618.3	231.9	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.1544	619.9	233.0	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.15395	621.5	234.0	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.15349	623.1	235.1	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.15302	624.7	236.1	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.15256	626.4	237.2	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.15209	628.1	238.2	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.15162	629.8	239.3	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.15115	631.5	240.3	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.15068	633.3	241.3	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 50; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir	Disprsn						s-1
m/s	m	m/s	deg	psu	c	kg/kg		
0.07	0.0	0.07	90.0	35.22	23.7	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.23	23.69	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.23	23.71	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.24	23.72	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.24	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.24	23.73	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.24	23.74	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.24	23.73	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.24	23.73	0.0	0.000312	
	90.0	0.0003						

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0.07	18.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.24	23.73	0.0	0.000312
	90.0	0.0003					
0.07	Ttl-flo	Temp					
	(MGD)	(C)					
	15.25	28.04					
Froude number:	6.053						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.51	45.29	2.181	-0.558	0.837
60	105.3	0.07	15.04	30.48	3.231	-0.966	1.507
80	105.0	0.07	20.99	20.51	4.79	-1.462	2.4
100	104.4	0.07	28.24	13.8	7.107	-2.001	3.496
120	103.5	0.07	36.87	9.289	10.55	-2.502	4.69
140	102.2	0.07	47.36	6.251	15.67	-2.946	5.983
160	100.5	0.07	60.4	4.207	23.27	-3.339	7.432
180	98.42	0.07	76.76	2.831	34.57	-3.688	9.122
200	95.84	0.07	97.37	1.905	51.35	-3.999	11.16
220	92.69	0.07	123.3	1.282	76.3	-4.275	13.68
222	92.34	0.07	126.3	1.232	79.38	-4.3	13.96
240	87.84	0.07	165.0	0.863	113.4	-4.577	17.62
260	80.21	0.07	235.7	0.58	168.4	-4.902	23.67
280	68.6	0.07	345.0	0.391	250.3	-5.234	32.64
297	54.18	0.07	480.8	0.279	350.5	-5.519	43.55
0.0222	max dilution reached						
300	51.08	0.07	510.0	0.263	371.9	-5.569	45.88
320	24.85	0.07	759.6	0.177	552.6	-5.905	65.41
0.0762							axial vel
323	19.93	0.07	807.1	0.167	586.4	-5.956	69.07
Const Eddy Diffusivity.	Farfield dispersion						surface,
m							
conc	dilutn	width	distnce	time			
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16592	588.4	174.4	25.0	0.0154	0.0	21.2	0.07 3.00E-4
0.16602	587.8	175.8	30.0	0.0352	0.0	21.2	0.07 3.00E-4
0.16603	587.4	177.2	35.0	0.055	0.0	21.2	0.07 3.00E-4
0.16601	587.3	178.6	40.0	0.0749	0.0	21.2	0.07 3.00E-4
0.16598	587.1	180.0	45.0	0.0947	0.0	21.2	0.07 3.00E-4
0.16593	587.0	181.4	50.0	0.115	0.0	21.2	0.07 3.00E-4
0.16588	586.9	182.8	55.0	0.134	0.0	21.2	0.07 3.00E-4
0.16583	586.9	184.1	60.0	0.154	0.0	21.2	0.07 3.00E-4
0.16577	586.8	185.5	65.0	0.174	0.0	21.2	0.07 3.00E-4
0.16571	586.8	186.8	70.0	0.194	0.0	21.2	0.07 3.00E-4
0.16565	586.7	188.1	75.0	0.214	0.0	21.2	0.07 3.00E-4
0.16558	586.7	189.4	80.0	0.234	0.0	21.2	0.07 3.00E-4
0.1655	586.7	190.7	85.0	0.253	0.0	21.2	0.07 3.00E-4

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0.16542	586.8	192.0	90.0	0.273	0.0	21.2	0.07	3.00E-4
0.16533	586.9	193.3	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.16523	587.0	194.6	100.0	0.313	0.0	21.2	0.07	3.00E-4
0.16511	587.1	195.9	105.0	0.333	0.0	21.2	0.07	3.00E-4
0.16498	587.3	197.1	110.0	0.353	0.0	21.2	0.07	3.00E-4
0.16484	587.6	198.4	115.0	0.373	0.0	21.2	0.07	3.00E-4
0.16468	587.9	199.7	120.0	0.392	0.0	21.2	0.07	3.00E-4
0.1645	588.3	200.9	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.1643	588.8	202.1	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.16409	589.3	203.3	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.16386	589.9	204.6	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.16361	590.5	205.8	145.0	0.492	0.0	21.2	0.07	3.00E-4
0.16335	591.2	207.0	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.16307	592.0	208.2	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.16278	592.8	209.4	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.16248	593.7	210.6	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.16216	594.6	211.7	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.16183	595.6	212.9	175.0	0.611	0.0	21.2	0.07	3.00E-4
0.16149	596.6	214.1	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.16114	597.7	215.2	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.16078	598.8	216.4	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.1604	599.9	217.5	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.16002	601.1	218.7	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.15963	602.4	219.8	205.0	0.73	0.0	21.2	0.07	3.00E-4
0.15923	603.6	220.9	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.15882	605.0	222.0	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.1584	606.3	223.2	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.15798	607.7	224.3	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.15755	609.1	225.4	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.15711	610.6	226.5	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.15666	612.1	227.6	240.0	0.869	0.0	21.2	0.07	3.00E-4
0.15622	613.6	228.7	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.15577	615.1	229.7	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.15532	616.7	230.8	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.15486	618.3	231.9	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.1544	619.9	233.0	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.15395	621.5	234.0	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.15349	623.1	235.1	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.15302	624.7	236.1	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.15256	626.4	237.2	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.15209	628.1	238.2	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.15162	629.8	239.3	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.15115	631.5	240.3	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.15068	633.3	241.3	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 51; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	solar	rad
	Far-dir	Disprsn		psu	c	kg/kg		s-1
m/s	m	m/s	deg					
0.07	0.0	0.07	90.0	35.22	23.7	0.0	0.000312	
	2.0	0.07	0.0003	35.23	23.69	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.23	23.71	0.0	0.000312	
	4.0	0.07	90.0	35.24	23.72	0.0	0.000312	
0.07	90.0	0.07	0.0003	35.24	23.74	0.0	0.000312	
	6.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.07	0.0003					
	8.0	0.07	90.0					
0.07	90.0	0.07	0.0003					
	10.0	0.07	90.0					

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0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	35.24	23.74	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.24	23.73	0.0	0.000312	
0.07	90.0	0.0003						
Tt1-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.053							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.51	45.29	2.181	-0.558	0.837;	
60	105.3	0.07	15.04	30.48	3.231	-0.966	1.507;	
80	105.0	0.07	20.99	20.51	4.79	-1.462	2.4;	
100	104.4	0.07	28.24	13.8	7.107	-2.001	3.496;	
120	103.5	0.07	36.87	9.289	10.55	-2.502	4.69;	
140	102.2	0.07	47.36	6.251	15.67	-2.946	5.983;	
160	100.5	0.07	60.4	4.207	23.27	-3.339	7.432;	
180	98.42	0.07	76.76	2.831	34.57	-3.688	9.122;	
200	95.84	0.07	97.37	1.905	51.35	-3.999	11.16;	
220	92.69	0.07	123.3	1.282	76.3	-4.275	13.68;	
222	92.34	0.07	126.3	1.232	79.38	-4.3	13.96; merging,	
240	87.84	0.07	165.0	0.863	113.4	-4.577	17.62;	
260	80.21	0.07	235.7	0.58	168.4	-4.902	23.67;	
280	68.6	0.07	345.0	0.391	250.3	-5.234	32.64;	
297	54.18	0.07	480.8	0.279	350.5	-5.519	43.55; axial vel	
0.0222	max dilution reached							
300	51.08	0.07	510.0	0.263	371.9	-5.569	45.88;	
320	24.85	0.07	759.6	0.177	552.6	-5.905	65.41; axial vel	
0.0762								
323	19.93	0.07	807.1	0.167	586.4	-5.956	69.07; surface,	
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						173.30 m	
conc	dilutn	width	distnce	time				
(ppm)	(m)	(m)	(m)	(hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)	
0.16592	588.4	174.4	25.0	0.0154	0.0	21.2	0.07 3.00E-4	
0.16602	587.8	175.8	30.0	0.0352	0.0	21.2	0.07 3.00E-4	
0.16603	587.4	177.2	35.0	0.055	0.0	21.2	0.07 3.00E-4	
0.16601	587.3	178.6	40.0	0.0749	0.0	21.2	0.07 3.00E-4	
0.16598	587.1	180.0	45.0	0.0947	0.0	21.2	0.07 3.00E-4	
0.16593	587.0	181.4	50.0	0.115	0.0	21.2	0.07 3.00E-4	

Kailua_avg8.txt

0.16588	586.9	182.8	55.0	0.134	0.0	21.2	0.07	3.00E-4
0.16583	586.9	184.1	60.0	0.154	0.0	21.2	0.07	3.00E-4
0.16577	586.8	185.5	65.0	0.174	0.0	21.2	0.07	3.00E-4
0.16571	586.8	186.8	70.0	0.194	0.0	21.2	0.07	3.00E-4
0.16565	586.7	188.1	75.0	0.214	0.0	21.2	0.07	3.00E-4
0.16558	586.7	189.4	80.0	0.234	0.0	21.2	0.07	3.00E-4
0.1655	586.7	190.7	85.0	0.253	0.0	21.2	0.07	3.00E-4
0.16542	586.8	192.0	90.0	0.273	0.0	21.2	0.07	3.00E-4
0.16533	586.9	193.3	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.16523	587.0	194.6	100.0	0.313	0.0	21.2	0.07	3.00E-4
0.16511	587.1	195.9	105.0	0.333	0.0	21.2	0.07	3.00E-4
0.16498	587.3	197.1	110.0	0.353	0.0	21.2	0.07	3.00E-4
0.16484	587.6	198.4	115.0	0.373	0.0	21.2	0.07	3.00E-4
0.16468	587.9	199.7	120.0	0.392	0.0	21.2	0.07	3.00E-4
0.1645	588.3	200.9	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.1643	588.8	202.1	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.16409	589.3	203.3	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.16386	589.9	204.6	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.16361	590.5	205.8	145.0	0.492	0.0	21.2	0.07	3.00E-4
0.16335	591.2	207.0	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.16307	592.0	208.2	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.16278	592.8	209.4	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.16248	593.7	210.6	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.16216	594.6	211.7	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.16183	595.6	212.9	175.0	0.611	0.0	21.2	0.07	3.00E-4
0.16149	596.6	214.1	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.16114	597.7	215.2	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.16078	598.8	216.4	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.1604	599.9	217.5	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.16002	601.1	218.7	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.15963	602.4	219.8	205.0	0.73	0.0	21.2	0.07	3.00E-4
0.15923	603.6	220.9	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.15882	605.0	222.0	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.1584	606.3	223.2	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.15798	607.7	224.3	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.15755	609.1	225.4	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.15711	610.6	226.5	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.15666	612.1	227.6	240.0	0.869	0.0	21.2	0.07	3.00E-4
0.15622	613.6	228.7	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.15577	615.1	229.7	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.15532	616.7	230.8	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.15486	618.3	231.9	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.1544	619.9	233.0	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.15395	621.5	234.0	270.0	0.988	0.0	21.2	0.07	3.00E-4
0.15349	623.1	235.1	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.15302	624.7	236.1	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.15256	626.4	237.2	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.15209	628.1	238.2	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.15162	629.8	239.3	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.15115	631.5	240.3	300.0	1.107	0.0	21.2	0.07	3.00E-4
0.15068	633.3	241.3	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 52; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir	Disprsn	deg		psu	C	kg/kg	s-1
m/s	m	m/s	m ^{0.67} /s ²					
0.07	0.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.07	24.81	0.0	0.000312	
	90.0	0.0003						

Kailua_avg8.txt

0.07	4.0	0.07	90.0	35.07	24.81	0.0	0.000312
	90.0	0.0003					
0.07	6.0	0.07	90.0	35.07	24.81	0.0	0.000312
	90.0	0.0003					
0.07	8.0	0.07	90.0	35.07	24.8	0.0	0.000312
	90.0	0.0003					
0.07	10.0	0.07	90.0	35.07	24.8	0.0	0.000312
	90.0	0.0003					
0.07	12.0	0.07	90.0	35.07	24.8	0.0	0.000312
	90.0	0.0003					
0.07	14.0	0.07	90.0	35.07	24.8	0.0	0.000312
	90.0	0.0003					
0.07	16.0	0.07	90.0	35.07	24.8	0.0	0.000312
	90.0	0.0003					
0.07	18.0	0.07	90.0	35.07	24.8	0.0	0.000312
	90.0	0.0003					
0.07	20.0	0.07	90.0	35.07	24.8	0.0	0.000312
	90.0	0.0003					
0.07	22.0	0.07	90.0	35.07	24.8	0.0	0.000312
	90.0	0.0003					
0.07	24.0	0.07	90.0	35.07	24.8	0.0	0.000312
	90.0	0.0003					
0.07	26.0	0.07	90.0	35.05	24.76	0.0	0.000312
	90.0	0.0003					
0.07	28.0	0.07	90.0	35.07	24.67	0.0	0.000312
	90.0	0.0003					
0.07	30.0	0.07	90.0	35.07	24.65	0.0	0.000312
	90.0	0.0003					
0.07	32.0	0.07	90.0	35.07	24.55	0.0	0.000312
	90.0	0.0003					
0.07	33.0	0.07	90.0	35.09	24.52	0.0	0.000312
	90.0	0.0003					
0.07	Ttl-flo (MGD)	Temp (C)					
	15.25	28.04					
Froude number:	6.103						
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.507;
80	105.0	0.07	21.02	20.51	4.791	-1.463	2.401;
100	104.4	0.07	28.29	13.8	7.109	-2.005	3.503;
120	103.5	0.07	36.97	9.289	10.55	-2.508	4.704;
140	102.2	0.07	47.54	6.251	15.67	-2.955	6.005;
160	100.6	0.07	60.67	4.207	23.28	-3.351	7.465;
180	98.48	0.07	77.2	2.831	34.58	-3.703	9.169;
200	95.93	0.07	98.07	1.905	51.37	-4.017	11.23;
220	92.82	0.07	124.4	1.282	76.33	-4.296	13.77;
221	92.65	0.07	125.8	1.257	77.85	-4.309	13.92; merging,
240	87.98	0.07	168.0	0.863	113.4	-4.607	17.82;
260	80.62	0.07	248.3	0.58	168.5	-4.945	24.12;
280	69.41	0.07	372.2	0.391	250.4	-5.306	33.9;
297	55.44	0.07	524.2	0.279	350.6	-5.624	46.08; axial vel
0.0217	max dilution reached						
300	52.43	0.07	556.8	0.263	372.1	-5.68	48.7;
320	26.87	0.07	831.0	0.177	552.9	-6.06	70.78; axial vel
0.0705							
323	22.07	0.07	882.3	0.166	586.7	-6.118	74.91; surface,
Const Eddy Diffusivity. Farfield dispersion based on wastefield width of							175.22
m	conc	dilutn	width	distnce	time		

					Kailua_avg8.txt			
(ppm)	(m)	(m)	(hrs)	(ppm)	(1y/hr)	(m/s)	(m0.67/s2)	
0.1658	589.1	175.8	25.0	0.0083	0.0	21.2	0.07	3.00E-4
0.16597	588.2	177.2	30.0	0.0281	0.0	21.2	0.07	3.00E-4
0.166	587.8	178.7	35.0	0.048	0.0	21.2	0.07	3.00E-4
0.16599	587.6	180.1	40.0	0.0678	0.0	21.2	0.07	3.00E-4
0.16596	587.4	181.5	45.0	0.0877	0.0	21.2	0.07	3.00E-4
0.16592	587.3	182.8	50.0	0.108	0.0	21.2	0.07	3.00E-4
0.16588	587.2	184.2	55.0	0.127	0.0	21.2	0.07	3.00E-4
0.16582	587.1	185.6	60.0	0.147	0.0	21.2	0.07	3.00E-4
0.16577	587.1	186.9	65.0	0.167	0.0	21.2	0.07	3.00E-4
0.16571	587.0	188.3	70.0	0.187	0.0	21.2	0.07	3.00E-4
0.16565	587.0	189.6	75.0	0.207	0.0	21.2	0.07	3.00E-4
0.16558	587.0	190.9	80.0	0.227	0.0	21.2	0.07	3.00E-4
0.16551	587.0	192.3	85.0	0.246	0.0	21.2	0.07	3.00E-4
0.16543	587.0	193.6	90.0	0.266	0.0	21.2	0.07	3.00E-4
0.16534	587.1	194.9	95.0	0.286	0.0	21.2	0.07	3.00E-4
0.16524	587.2	196.2	100.0	0.306	0.0	21.2	0.07	3.00E-4
0.16513	587.3	197.4	105.0	0.326	0.0	21.2	0.07	3.00E-4
0.16501	587.5	198.7	110.0	0.346	0.0	21.2	0.07	3.00E-4
0.16487	587.7	200.0	115.0	0.365	0.0	21.2	0.07	3.00E-4
0.16472	588.0	201.2	120.0	0.385	0.0	21.2	0.07	3.00E-4
0.16455	588.4	202.5	125.0	0.405	0.0	21.2	0.07	3.00E-4
0.16437	588.8	203.7	130.0	0.425	0.0	21.2	0.07	3.00E-4
0.16417	589.3	204.9	135.0	0.445	0.0	21.2	0.07	3.00E-4
0.16395	589.8	206.2	140.0	0.465	0.0	21.2	0.07	3.00E-4
0.1637	590.4	207.4	145.0	0.484	0.0	21.2	0.07	3.00E-4
0.16345	591.1	208.6	150.0	0.504	0.0	21.2	0.07	3.00E-4
0.16319	591.8	209.8	155.0	0.524	0.0	21.2	0.07	3.00E-4
0.16291	592.6	211.0	160.0	0.544	0.0	21.2	0.07	3.00E-4
0.16261	593.4	212.2	165.0	0.564	0.0	21.2	0.07	3.00E-4
0.16231	594.3	213.4	170.0	0.584	0.0	21.2	0.07	3.00E-4
0.16198	595.2	214.6	175.0	0.604	0.0	21.2	0.07	3.00E-4
0.16165	596.2	215.7	180.0	0.623	0.0	21.2	0.07	3.00E-4
0.16131	597.3	216.9	185.0	0.643	0.0	21.2	0.07	3.00E-4
0.16095	598.4	218.1	190.0	0.663	0.0	21.2	0.07	3.00E-4
0.16059	599.5	219.2	195.0	0.683	0.0	21.2	0.07	3.00E-4
0.16021	600.6	220.4	200.0	0.703	0.0	21.2	0.07	3.00E-4
0.15983	601.8	221.5	205.0	0.723	0.0	21.2	0.07	3.00E-4
0.15943	603.1	222.6	210.0	0.742	0.0	21.2	0.07	3.00E-4
0.15904	604.4	223.8	215.0	0.762	0.0	21.2	0.07	3.00E-4
0.15863	605.7	224.9	220.0	0.782	0.0	21.2	0.07	3.00E-4
0.15821	607.0	226.0	225.0	0.802	0.0	21.2	0.07	3.00E-4
0.15779	608.4	227.1	230.0	0.822	0.0	21.2	0.07	3.00E-4
0.15736	609.9	228.2	235.0	0.842	0.0	21.2	0.07	3.00E-4
0.15692	611.3	229.3	240.0	0.861	0.0	21.2	0.07	3.00E-4
0.15647	612.8	230.4	245.0	0.881	0.0	21.2	0.07	3.00E-4
0.15603	614.3	231.5	250.0	0.901	0.0	21.2	0.07	3.00E-4
0.15558	615.9	232.6	255.0	0.921	0.0	21.2	0.07	3.00E-4
0.15513	617.4	233.7	260.0	0.941	0.0	21.2	0.07	3.00E-4
0.15468	619.0	234.8	265.0	0.961	0.0	21.2	0.07	3.00E-4
0.15422	620.6	235.8	270.0	0.981	0.0	21.2	0.07	3.00E-4
0.15377	622.2	236.9	275.0	1.0	0.0	21.2	0.07	3.00E-4
0.15331	623.8	238.0	280.0	1.02	0.0	21.2	0.07	3.00E-4
0.15285	625.4	239.0	285.0	1.04	0.0	21.2	0.07	3.00E-4
0.15239	627.1	240.1	290.0	1.06	0.0	21.2	0.07	3.00E-4
0.15192	628.8	241.1	295.0	1.08	0.0	21.2	0.07	3.00E-4
0.15145	630.5	242.2	300.0	1.1	0.0	21.2	0.07	3.00E-4
0.15098	632.2	243.2	305.0	1.119	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 53; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

----- Depth Amb-cur Amb-dir Amb-sal Amb-tem Amb-pol Solar rad

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Kailua_avg8.txt								
Far-spd m/s	Far-dir deg	Dispnsn m/s ^{0.67/s²}	deg	psu	c	kg/kg	s-1	
0.07	0.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.07	24.81	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.07	24.81	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.07	24.81	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.05	24.76	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.07	24.67	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.07	24.65	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.07	24.55	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.09	24.52	0.0	0.000312	
	90.0	0.0003						
Ttl-flo Temp (MGD) (C)	15.25	28.04						
Froude number:	6.103							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.507;	
80	105.0	0.07	21.02	20.51	4.791	-1.463	2.401;	
100	104.4	0.07	28.29	13.8	7.109	-2.005	3.503;	
120	103.5	0.07	36.97	9.289	10.55	-2.508	4.704;	
140	102.2	0.07	47.54	6.251	15.67	-2.955	6.005;	
160	100.6	0.07	60.67	4.207	23.28	-3.351	7.465;	
180	98.48	0.07	77.2	2.831	34.58	-3.703	9.169;	
200	95.93	0.07	98.07	1.905	51.37	-4.017	11.23;	
220	92.82	0.07	124.4	1.282	76.33	-4.296	13.77;	
221	92.65	0.07	125.8	1.257	77.85	-4.309	13.92;	
240	87.98	0.07	168.0	0.863	113.4	-4.607	17.82;	
260	80.62	0.07	248.3	0.58	168.5	-4.945	24.12;	
280	69.41	0.07	372.2	0.391	250.4	-5.306	33.9;	
297	55.44	0.07	524.2	0.279	350.6	-5.624	46.08; axial vel	
0.0217 max dilution reached								

Kailua_avg8.txt

300	52.43	0.07	556.8	0.263	372.1	-5.68	48.7;	
320	26.87	0.07	831.0	0.177	552.9	-6.06	70.78; axial vel	
0.0705								
323	22.07	0.07	882.3	0.166	586.7	-6.118	74.91; surface,	
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of	m						175.22

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)	(m ^{0.67} /s ²)
0.1658	589.1	175.8	25.0	0.0083	0.0	21.2	0.07	3.00E-4
0.16597	588.2	177.2	30.0	0.0281	0.0	21.2	0.07	3.00E-4
0.166	587.8	178.7	35.0	0.048	0.0	21.2	0.07	3.00E-4
0.16599	587.6	180.1	40.0	0.0678	0.0	21.2	0.07	3.00E-4
0.16596	587.4	181.5	45.0	0.0877	0.0	21.2	0.07	3.00E-4
0.16592	587.3	182.8	50.0	0.108	0.0	21.2	0.07	3.00E-4
0.16588	587.2	184.2	55.0	0.127	0.0	21.2	0.07	3.00E-4
0.16582	587.1	185.6	60.0	0.147	0.0	21.2	0.07	3.00E-4
0.16577	587.1	186.9	65.0	0.167	0.0	21.2	0.07	3.00E-4
0.16571	587.0	188.3	70.0	0.187	0.0	21.2	0.07	3.00E-4
0.16565	587.0	189.6	75.0	0.207	0.0	21.2	0.07	3.00E-4
0.16558	587.0	190.9	80.0	0.227	0.0	21.2	0.07	3.00E-4
0.16551	587.0	192.3	85.0	0.246	0.0	21.2	0.07	3.00E-4
0.16543	587.0	193.6	90.0	0.266	0.0	21.2	0.07	3.00E-4
0.16534	587.1	194.9	95.0	0.286	0.0	21.2	0.07	3.00E-4
0.16524	587.2	196.2	100.0	0.306	0.0	21.2	0.07	3.00E-4
0.16513	587.3	197.4	105.0	0.326	0.0	21.2	0.07	3.00E-4
0.16501	587.5	198.7	110.0	0.346	0.0	21.2	0.07	3.00E-4
0.16487	587.7	200.0	115.0	0.365	0.0	21.2	0.07	3.00E-4
0.16472	588.0	201.2	120.0	0.385	0.0	21.2	0.07	3.00E-4
0.16455	588.4	202.5	125.0	0.405	0.0	21.2	0.07	3.00E-4
0.16437	588.8	203.7	130.0	0.425	0.0	21.2	0.07	3.00E-4
0.16417	589.3	204.9	135.0	0.445	0.0	21.2	0.07	3.00E-4
0.16395	589.8	206.2	140.0	0.465	0.0	21.2	0.07	3.00E-4
0.1637	590.4	207.4	145.0	0.484	0.0	21.2	0.07	3.00E-4
0.16345	591.1	208.6	150.0	0.504	0.0	21.2	0.07	3.00E-4
0.16319	591.8	209.8	155.0	0.524	0.0	21.2	0.07	3.00E-4
0.16291	592.6	211.0	160.0	0.544	0.0	21.2	0.07	3.00E-4
0.16261	593.4	212.2	165.0	0.564	0.0	21.2	0.07	3.00E-4
0.16231	594.3	213.4	170.0	0.584	0.0	21.2	0.07	3.00E-4
0.16198	595.2	214.6	175.0	0.604	0.0	21.2	0.07	3.00E-4
0.16165	596.2	215.7	180.0	0.623	0.0	21.2	0.07	3.00E-4
0.16131	597.3	216.9	185.0	0.643	0.0	21.2	0.07	3.00E-4
0.16095	598.4	218.1	190.0	0.663	0.0	21.2	0.07	3.00E-4
0.16059	599.5	219.2	195.0	0.683	0.0	21.2	0.07	3.00E-4
0.16021	600.6	220.4	200.0	0.703	0.0	21.2	0.07	3.00E-4
0.15983	601.8	221.5	205.0	0.723	0.0	21.2	0.07	3.00E-4
0.15943	603.1	222.6	210.0	0.742	0.0	21.2	0.07	3.00E-4
0.15904	604.4	223.8	215.0	0.762	0.0	21.2	0.07	3.00E-4
0.15863	605.7	224.9	220.0	0.782	0.0	21.2	0.07	3.00E-4
0.15821	607.0	226.0	225.0	0.802	0.0	21.2	0.07	3.00E-4
0.15779	608.4	227.1	230.0	0.822	0.0	21.2	0.07	3.00E-4
0.15736	609.9	228.2	235.0	0.842	0.0	21.2	0.07	3.00E-4
0.15692	611.3	229.3	240.0	0.861	0.0	21.2	0.07	3.00E-4
0.15647	612.8	230.4	245.0	0.881	0.0	21.2	0.07	3.00E-4
0.15603	614.3	231.5	250.0	0.901	0.0	21.2	0.07	3.00E-4
0.15558	615.9	232.6	255.0	0.921	0.0	21.2	0.07	3.00E-4
0.15513	617.4	233.7	260.0	0.941	0.0	21.2	0.07	3.00E-4
0.15468	619.0	234.8	265.0	0.961	0.0	21.2	0.07	3.00E-4
0.15422	620.6	235.8	270.0	0.981	0.0	21.2	0.07	3.00E-4
0.15377	622.2	236.9	275.0	1.0	0.0	21.2	0.07	3.00E-4
0.15331	623.8	238.0	280.0	1.02	0.0	21.2	0.07	3.00E-4
0.15285	625.4	239.0	285.0	1.04	0.0	21.2	0.07	3.00E-4
0.15239	627.1	240.1	290.0	1.06	0.0	21.2	0.07	3.00E-4
0.15192	628.8	241.1	295.0	1.08	0.0	21.2	0.07	3.00E-4

Kailua_avg8.txt

0.15145	630.5	242.2	300.0	1.1	0.0	21.2	0.07	3.00E-4
0.15098	632.2	243.2	305.0	1.119	0.0	21.2	0.07	3.00E-4
count: 57								
/ Windows UM3.								
Case 54; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:								
Far-spd m/s	Depth m	Amb-cur m/s	Amb-dir deg	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1	
0.07	0.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	2.0	0.07	90.0	35.07	24.81	0.0	0.000312	
	90.0	0.0003						
0.07	4.0	0.07	90.0	35.07	24.81	0.0	0.000312	
	90.0	0.0003						
0.07	6.0	0.07	90.0	35.07	24.81	0.0	0.000312	
	90.0	0.0003						
0.07	8.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	10.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	12.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	14.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	16.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	18.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.07	24.8	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.05	24.76	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.07	24.67	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.07	24.65	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.07	24.55	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.09	24.52	0.0	0.000312	
	90.0	0.0003						
Ttl-flo (MGD)	Temp (C)							
15.25	28.04							
Froude number:	6.103							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.507	
80	105.0	0.07	21.02	20.51	4.791	-1.463	2.401	
100	104.4	0.07	28.29	13.8	7.109	-2.005	3.503	
120	103.5	0.07	36.97	9.289	10.55	-2.508	4.704	
140	102.2	0.07	47.54	6.251	15.67	-2.955	6.005	
160	100.6	0.07	60.67	4.207	23.28	-3.351	7.465	
180	98.48	0.07	77.2	2.831	34.58	-3.703	9.169	
200	95.93	0.07	98.07	1.905	51.37	-4.017	11.23	

Kailua_avg8.txt

220	92.82	0.07	124.4	1.282	76.33	-4.296	13.77;
221	92.65	0.07	125.8	1.257	77.85	-4.309	13.92; merging,
240	87.98	0.07	168.0	0.863	113.4	-4.607	17.82;
260	80.62	0.07	248.3	0.58	168.5	-4.945	24.12;
280	69.41	0.07	372.2	0.391	250.4	-5.306	33.9;
297	55.44	0.07	524.2	0.279	350.6	-5.624	46.08; axial vel
0.0217	max dilution reached						
300	52.43	0.07	556.8	0.263	372.1	-5.68	48.7;
320	26.87	0.07	831.0	0.177	552.9	-6.06	70.78; axial vel
0.0705							
323	22.07	0.07	882.3	0.166	586.7	-6.118	74.91; surface,
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of	m					175.22

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.1658	589.1	175.8	25.0	0.0083	0.0	21.2	0.07 3.00E-4
0.16597	588.2	177.2	30.0	0.0281	0.0	21.2	0.07 3.00E-4
0.166	587.8	178.7	35.0	0.048	0.0	21.2	0.07 3.00E-4
0.16599	587.6	180.1	40.0	0.0678	0.0	21.2	0.07 3.00E-4
0.16596	587.4	181.5	45.0	0.0877	0.0	21.2	0.07 3.00E-4
0.16592	587.3	182.8	50.0	0.108	0.0	21.2	0.07 3.00E-4
0.16588	587.2	184.2	55.0	0.127	0.0	21.2	0.07 3.00E-4
0.16582	587.1	185.6	60.0	0.147	0.0	21.2	0.07 3.00E-4
0.16577	587.1	186.9	65.0	0.167	0.0	21.2	0.07 3.00E-4
0.16571	587.0	188.3	70.0	0.187	0.0	21.2	0.07 3.00E-4
0.16565	587.0	189.6	75.0	0.207	0.0	21.2	0.07 3.00E-4
0.16558	587.0	190.9	80.0	0.227	0.0	21.2	0.07 3.00E-4
0.16551	587.0	192.3	85.0	0.246	0.0	21.2	0.07 3.00E-4
0.16543	587.0	193.6	90.0	0.266	0.0	21.2	0.07 3.00E-4
0.16534	587.1	194.9	95.0	0.286	0.0	21.2	0.07 3.00E-4
0.16524	587.2	196.2	100.0	0.306	0.0	21.2	0.07 3.00E-4
0.16513	587.3	197.4	105.0	0.326	0.0	21.2	0.07 3.00E-4
0.16501	587.5	198.7	110.0	0.346	0.0	21.2	0.07 3.00E-4
0.16487	587.7	200.0	115.0	0.365	0.0	21.2	0.07 3.00E-4
0.16472	588.0	201.2	120.0	0.385	0.0	21.2	0.07 3.00E-4
0.16455	588.4	202.5	125.0	0.405	0.0	21.2	0.07 3.00E-4
0.16437	588.8	203.7	130.0	0.425	0.0	21.2	0.07 3.00E-4
0.16417	589.3	204.9	135.0	0.445	0.0	21.2	0.07 3.00E-4
0.16395	589.8	206.2	140.0	0.465	0.0	21.2	0.07 3.00E-4
0.1637	590.4	207.4	145.0	0.484	0.0	21.2	0.07 3.00E-4
0.16345	591.1	208.6	150.0	0.504	0.0	21.2	0.07 3.00E-4
0.16319	591.8	209.8	155.0	0.524	0.0	21.2	0.07 3.00E-4
0.16291	592.6	211.0	160.0	0.544	0.0	21.2	0.07 3.00E-4
0.16261	593.4	212.2	165.0	0.564	0.0	21.2	0.07 3.00E-4
0.16231	594.3	213.4	170.0	0.584	0.0	21.2	0.07 3.00E-4
0.16198	595.2	214.6	175.0	0.604	0.0	21.2	0.07 3.00E-4
0.16165	596.2	215.7	180.0	0.623	0.0	21.2	0.07 3.00E-4
0.16131	597.3	216.9	185.0	0.643	0.0	21.2	0.07 3.00E-4
0.16095	598.4	218.1	190.0	0.663	0.0	21.2	0.07 3.00E-4
0.16059	599.5	219.2	195.0	0.683	0.0	21.2	0.07 3.00E-4
0.16021	600.6	220.4	200.0	0.703	0.0	21.2	0.07 3.00E-4
0.15983	601.8	221.5	205.0	0.723	0.0	21.2	0.07 3.00E-4
0.15943	603.1	222.6	210.0	0.742	0.0	21.2	0.07 3.00E-4
0.15904	604.4	223.8	215.0	0.762	0.0	21.2	0.07 3.00E-4
0.15863	605.7	224.9	220.0	0.782	0.0	21.2	0.07 3.00E-4
0.15821	607.0	226.0	225.0	0.802	0.0	21.2	0.07 3.00E-4
0.15779	608.4	227.1	230.0	0.822	0.0	21.2	0.07 3.00E-4
0.15736	609.9	228.2	235.0	0.842	0.0	21.2	0.07 3.00E-4
0.15692	611.3	229.3	240.0	0.861	0.0	21.2	0.07 3.00E-4
0.15647	612.8	230.4	245.0	0.881	0.0	21.2	0.07 3.00E-4
0.15603	614.3	231.5	250.0	0.901	0.0	21.2	0.07 3.00E-4
0.15558	615.9	232.6	255.0	0.921	0.0	21.2	0.07 3.00E-4
0.15513	617.4	233.7	260.0	0.941	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt

0.15468	619.0	234.8	265.0	0.961	0.0	21.2	0.07	3.00E-4
0.15422	620.6	235.8	270.0	0.981	0.0	21.2	0.07	3.00E-4
0.15377	622.2	236.9	275.0	1.0	0.0	21.2	0.07	3.00E-4
0.15331	623.8	238.0	280.0	1.02	0.0	21.2	0.07	3.00E-4
0.15285	625.4	239.0	285.0	1.04	0.0	21.2	0.07	3.00E-4
0.15239	627.1	240.1	290.0	1.06	0.0	21.2	0.07	3.00E-4
0.15192	628.8	241.1	295.0	1.08	0.0	21.2	0.07	3.00E-4
0.15145	630.5	242.2	300.0	1.1	0.0	21.2	0.07	3.00E-4
0.15098	632.2	243.2	305.0	1.119	0.0	21.2	0.07	3.00E-4

count: 57
/ Windows UM3.

Case 55; ambient file C:\Plumes\kailua_avg8.001.db; diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn m0.67/s2	Amb-sal	Amb-tem	Amb-pol	Solar rad
					psu	c	kg/kg	s-1
0.07	0.0	0.07	90.0	0.0003	35.22	24.61	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.22	24.61	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.22	24.61	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.22	24.61	0.0	0.000312
0.07	8.0	0.07	90.0	0.0003	35.22	24.61	0.0	0.000312
0.07	10.0	0.07	90.0	0.0003	35.22	24.61	0.0	0.000312
0.07	12.0	0.07	90.0	0.0003	35.21	24.61	0.0	0.000312
0.07	14.0	0.07	90.0	0.0003	35.23	24.58	0.0	0.000312
0.07	16.0	0.07	90.0	0.0003	35.22	24.57	0.0	0.000312
0.07	18.0	0.07	90.0	0.0003	35.23	24.56	0.0	0.000312
0.07	20.0	0.07	90.0	0.0003	35.24	24.55	0.0	0.000312
0.07	22.0	0.07	90.0	0.0003	35.23	24.54	0.0	0.000312
0.07	24.0	0.07	90.0	0.0003	35.24	24.53	0.0	0.000312
0.07	26.0	0.07	90.0	0.0003	35.21	24.5	0.0	0.000312
0.07	28.0	0.07	90.0	0.0003	35.21	24.44	0.0	0.000312
0.07	30.0	0.07	90.0	0.0003	35.25	24.34	0.0	0.000312
0.07	32.0	0.07	90.0	0.0003	35.25	24.33	0.0	0.000312
0.07	33.0	0.07	90.0	0.0003	35.25	24.33	0.0	0.000312
0.07	90.0	0.0003						
	Ttl-flo (MGD)	Temp (C)						
	15.25	28.04						

Froude number: 6.076

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn ()	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837
60	105.3	0.07	15.04	30.48	3.231	-0.967	1.507

Kailua_avg8.txt							
80	105.0	0.07	21.0	20.51	4.791	-1.463	2.4;
100	104.4	0.07	28.26	13.8	7.108	-2.003	3.499;
120	103.5	0.07	36.91	9.289	10.55	-2.504	4.696;
140	102.2	0.07	47.43	6.251	15.67	-2.95	5.992;
160	100.5	0.07	60.5	4.207	23.27	-3.344	7.446;
180	98.45	0.07	76.9	2.831	34.57	-3.694	9.141;
200	95.87	0.07	97.69	1.905	51.36	-4.006	11.18;
220	92.78	0.07	124.4	1.282	76.31	-4.283	13.71;
221	92.61	0.07	126.0	1.257	77.84	-4.296	13.85; merging,
240	88.0	0.07	170.2	0.863	113.4	-4.597	17.79;
260	80.63	0.07	250.1	0.58	168.5	-4.942	24.24;
280	69.29	0.07	369.9	0.391	250.3	-5.305	34.06;
297	55.37	0.07	524.0	0.279	350.5	-5.62	46.12; axial vel
0.0216 max dilution reached							
300	52.45	0.07	560.4	0.263	372.0	-5.676	48.69;
320	29.52	0.07	921.6	0.177	552.8	-6.057	70.91;
321	28.21	0.07	946.0	0.173	563.8	-6.077	72.33; axial vel
0.0676 surface, Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 176.83 m							
conc	dilutn	width	distnce	time	(ppm)	(ly/hr)	(m/s)(m0.67/s2)
(ppm)	(m)	(m)	(hrs)				
0.17256	565.9	177.7	25.0	0.0114	0.0	21.2	0.07 3.00E-4
0.1727	565.2	179.1	30.0	0.0313	0.0	21.2	0.07 3.00E-4
0.17272	564.8	180.5	35.0	0.0511	0.0	21.2	0.07 3.00E-4
0.17271	564.6	181.9	40.0	0.0709	0.0	21.2	0.07 3.00E-4
0.17267	564.5	183.3	45.0	0.0908	0.0	21.2	0.07 3.00E-4
0.17263	564.4	184.7	50.0	0.111	0.0	21.2	0.07 3.00E-4
0.17258	564.3	186.1	55.0	0.13	0.0	21.2	0.07 3.00E-4
0.17252	564.2	187.4	60.0	0.15	0.0	21.2	0.07 3.00E-4
0.17247	564.2	188.8	65.0	0.17	0.0	21.2	0.07 3.00E-4
0.1724	564.1	190.2	70.0	0.19	0.0	21.2	0.07 3.00E-4
0.17234	564.1	191.5	75.0	0.21	0.0	21.2	0.07 3.00E-4
0.17227	564.1	192.8	80.0	0.23	0.0	21.2	0.07 3.00E-4
0.17219	564.1	194.1	85.0	0.25	0.0	21.2	0.07 3.00E-4
0.17211	564.1	195.4	90.0	0.269	0.0	21.2	0.07 3.00E-4
0.17202	564.2	196.7	95.0	0.289	0.0	21.2	0.07 3.00E-4
0.17192	564.3	198.0	100.0	0.309	0.0	21.2	0.07 3.00E-4
0.1718	564.4	199.3	105.0	0.329	0.0	21.2	0.07 3.00E-4
0.17167	564.6	200.6	110.0	0.349	0.0	21.2	0.07 3.00E-4
0.17153	564.8	201.9	115.0	0.369	0.0	21.2	0.07 3.00E-4
0.17137	565.1	203.1	120.0	0.388	0.0	21.2	0.07 3.00E-4
0.1712	565.4	204.4	125.0	0.408	0.0	21.2	0.07 3.00E-4
0.17101	565.8	205.6	130.0	0.428	0.0	21.2	0.07 3.00E-4
0.1708	566.3	206.9	135.0	0.448	0.0	21.2	0.07 3.00E-4
0.17057	566.8	208.1	140.0	0.468	0.0	21.2	0.07 3.00E-4
0.17032	567.4	209.3	145.0	0.488	0.0	21.2	0.07 3.00E-4
0.17006	568.0	210.5	150.0	0.507	0.0	21.2	0.07 3.00E-4
0.16978	568.7	211.7	155.0	0.527	0.0	21.2	0.07 3.00E-4
0.16949	569.5	212.9	160.0	0.547	0.0	21.2	0.07 3.00E-4
0.16919	570.3	214.1	165.0	0.567	0.0	21.2	0.07 3.00E-4
0.16887	571.1	215.3	170.0	0.587	0.0	21.2	0.07 3.00E-4
0.16854	572.0	216.5	175.0	0.607	0.0	21.2	0.07 3.00E-4
0.16819	572.9	217.7	180.0	0.626	0.0	21.2	0.07 3.00E-4
0.16784	573.9	218.9	185.0	0.646	0.0	21.2	0.07 3.00E-4
0.16747	575.0	220.0	190.0	0.666	0.0	21.2	0.07 3.00E-4
0.16709	576.0	221.2	195.0	0.686	0.0	21.2	0.07 3.00E-4
0.16671	577.1	222.3	200.0	0.706	0.0	21.2	0.07 3.00E-4
0.16631	578.3	223.5	205.0	0.726	0.0	21.2	0.07 3.00E-4
0.1659	579.5	224.6	210.0	0.746	0.0	21.2	0.07 3.00E-4
0.16549	580.7	225.7	215.0	0.765	0.0	21.2	0.07 3.00E-4
0.16507	582.0	226.9	220.0	0.785	0.0	21.2	0.07 3.00E-4
0.16464	583.2	228.0	225.0	0.805	0.0	21.2	0.07 3.00E-4

Kailua_avg8.txt								
0.1642	584.6	229.1	230.0	0.825	0.0	21.2	0.07	3.00E-4
0.16375	585.9	230.2	235.0	0.845	0.0	21.2	0.07	3.00E-4
0.1633	587.3	231.3	240.0	0.865	0.0	21.2	0.07	3.00E-4
0.16284	588.8	232.4	245.0	0.884	0.0	21.2	0.07	3.00E-4
0.16238	590.2	233.5	250.0	0.904	0.0	21.2	0.07	3.00E-4
0.16192	591.7	234.6	255.0	0.924	0.0	21.2	0.07	3.00E-4
0.16145	593.1	235.7	260.0	0.944	0.0	21.2	0.07	3.00E-4
0.16098	594.6	236.8	265.0	0.964	0.0	21.2	0.07	3.00E-4
0.16051	596.2	237.9	270.0	0.984	0.0	21.2	0.07	3.00E-4
0.16005	597.7	238.9	275.0	1.003	0.0	21.2	0.07	3.00E-4
0.15957	599.2	240.0	280.0	1.023	0.0	21.2	0.07	3.00E-4
0.15909	600.8	241.1	285.0	1.043	0.0	21.2	0.07	3.00E-4
0.15861	602.4	242.1	290.0	1.063	0.0	21.2	0.07	3.00E-4
0.15813	604.0	243.2	295.0	1.083	0.0	21.2	0.07	3.00E-4
0.15765	605.6	244.2	300.0	1.103	0.0	21.2	0.07	3.00E-4
0.15717	607.2	245.3	305.0	1.123	0.0	21.2	0.07	3.00E-4

count: 57

/ windows UM3.

Case 56; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Amb-disprsn 0.67/s ²	Amb-sal psu	Amb-tem C	Amb-pol kg/kg	Solar rad s-1
	Far-dir deg	Disprsn 0.0003	deg			C		
0.07	0.0	0.07	90.0	0.0003	35.22	24.61	0.0	0.000312
0.07	2.0	0.07	90.0	0.0003	35.22	24.61	0.0	0.000312
0.07	4.0	0.07	90.0	0.0003	35.22	24.61	0.0	0.000312
0.07	6.0	0.07	90.0	0.0003	35.22	24.61	0.0	0.000312
0.07	8.0	0.07	90.0	0.0003	35.22	24.61	0.0	0.000312
0.07	10.0	0.07	90.0	0.0003	35.22	24.61	0.0	0.000312
0.07	12.0	0.07	90.0	0.0003	35.21	24.61	0.0	0.000312
0.07	14.0	0.07	90.0	0.0003	35.23	24.58	0.0	0.000312
0.07	16.0	0.07	90.0	0.0003	35.22	24.57	0.0	0.000312
0.07	18.0	0.07	90.0	0.0003	35.23	24.56	0.0	0.000312
0.07	20.0	0.07	90.0	0.0003	35.24	24.55	0.0	0.000312
0.07	22.0	0.07	90.0	0.0003	35.23	24.54	0.0	0.000312
0.07	24.0	0.07	90.0	0.0003	35.24	24.53	0.0	0.000312
0.07	26.0	0.07	90.0	0.0003	35.21	24.5	0.0	0.000312
0.07	28.0	0.07	90.0	0.0003	35.21	24.44	0.0	0.000312
0.07	30.0	0.07	90.0	0.0003	35.25	24.34	0.0	0.000312
0.07	32.0	0.07	90.0	0.0003	35.25	24.33	0.0	0.000312
0.07	33.0	0.07	90.0	0.0003	35.25	24.33	0.0	0.000312
0.07	90.0	0.0003						
Ttl-flo (MGD)	Temp (C)							
15.25	28.04							

Kailua_avg8.txt

Froude number: 6.076

Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;
20	105.4	0.07	7.24	67.3	1.475	-0.239	0.349;
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;
60	105.3	0.07	15.04	30.48	3.231	-0.967	1.507;
80	105.0	0.07	21.0	20.51	4.791	-1.463	2.4;
100	104.4	0.07	28.26	13.8	7.108	-2.003	3.499;
120	103.5	0.07	36.91	9.289	10.55	-2.504	4.696;
140	102.2	0.07	47.43	6.251	15.67	-2.95	5.992;
160	100.5	0.07	60.5	4.207	23.27	-3.344	7.446;
180	98.45	0.07	76.9	2.831	34.57	-3.694	9.141;
200	95.87	0.07	97.69	1.905	51.36	-4.006	11.18;
220	92.78	0.07	124.4	1.282	76.31	-4.283	13.71;
221	92.61	0.07	126.0	1.257	77.84	-4.296	13.85; merging,
240	88.0	0.07	170.2	0.863	113.4	-4.597	17.79;
260	80.63	0.07	250.1	0.58	168.5	-4.942	24.24;
280	69.29	0.07	369.9	0.391	250.3	-5.305	34.06;
297	55.37	0.07	524.0	0.279	350.5	-5.62	46.12; axial vel
0.0216	max dilution reached						
300	52.45	0.07	560.4	0.263	372.0	-5.676	48.69;
320	29.52	0.07	921.6	0.177	552.8	-6.057	70.91;
321	28.21	0.07	946.0	0.173	563.8	-6.077	72.33; axial vel

0.0676 surface,

Const Eddy Diffusivity. Farfield dispersion based on wastefield width of 176.83 m

conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	concn (ppm)	ly/hr (1y/hr)	(m/s) (m0.67/s2)
0.17256	565.9	177.7	25.0	0.0114	0.0	21.2	0.07 3.00E-4
0.17277	565.2	179.1	30.0	0.0313	0.0	21.2	0.07 3.00E-4
0.17272	564.8	180.5	35.0	0.0511	0.0	21.2	0.07 3.00E-4
0.17271	564.6	181.9	40.0	0.0709	0.0	21.2	0.07 3.00E-4
0.17267	564.5	183.3	45.0	0.0908	0.0	21.2	0.07 3.00E-4
0.17263	564.4	184.7	50.0	0.111	0.0	21.2	0.07 3.00E-4
0.17258	564.3	186.1	55.0	0.13	0.0	21.2	0.07 3.00E-4
0.17252	564.2	187.4	60.0	0.15	0.0	21.2	0.07 3.00E-4
0.17247	564.2	188.8	65.0	0.17	0.0	21.2	0.07 3.00E-4
0.1724	564.1	190.2	70.0	0.19	0.0	21.2	0.07 3.00E-4
0.17234	564.1	191.5	75.0	0.21	0.0	21.2	0.07 3.00E-4
0.17227	564.1	192.8	80.0	0.23	0.0	21.2	0.07 3.00E-4
0.17219	564.1	194.1	85.0	0.25	0.0	21.2	0.07 3.00E-4
0.17211	564.1	195.4	90.0	0.269	0.0	21.2	0.07 3.00E-4
0.17202	564.2	196.7	95.0	0.289	0.0	21.2	0.07 3.00E-4
0.17192	564.3	198.0	100.0	0.309	0.0	21.2	0.07 3.00E-4
0.1718	564.4	199.3	105.0	0.329	0.0	21.2	0.07 3.00E-4
0.17167	564.6	200.6	110.0	0.349	0.0	21.2	0.07 3.00E-4
0.17153	564.8	201.9	115.0	0.369	0.0	21.2	0.07 3.00E-4
0.17137	565.1	203.1	120.0	0.388	0.0	21.2	0.07 3.00E-4
0.1712	565.4	204.4	125.0	0.408	0.0	21.2	0.07 3.00E-4
0.17101	565.8	205.6	130.0	0.428	0.0	21.2	0.07 3.00E-4
0.1708	566.3	206.9	135.0	0.448	0.0	21.2	0.07 3.00E-4
0.17057	566.8	208.1	140.0	0.468	0.0	21.2	0.07 3.00E-4
0.17032	567.4	209.3	145.0	0.488	0.0	21.2	0.07 3.00E-4
0.17006	568.0	210.5	150.0	0.507	0.0	21.2	0.07 3.00E-4
0.16978	568.7	211.7	155.0	0.527	0.0	21.2	0.07 3.00E-4
0.16949	569.5	212.9	160.0	0.547	0.0	21.2	0.07 3.00E-4
0.16919	570.3	214.1	165.0	0.567	0.0	21.2	0.07 3.00E-4
0.16887	571.1	215.3	170.0	0.587	0.0	21.2	0.07 3.00E-4
0.16854	572.0	216.5	175.0	0.607	0.0	21.2	0.07 3.00E-4
0.16819	572.9	217.7	180.0	0.626	0.0	21.2	0.07 3.00E-4
0.16784	573.9	218.9	185.0	0.646	0.0	21.2	0.07 3.00E-4
0.16747	575.0	220.0	190.0	0.666	0.0	21.2	0.07 3.00E-4

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0.16709	576.0	221.2	195.0	0.686	0.0	21.2	0.07	3.00E-4
0.16671	577.1	222.3	200.0	0.706	0.0	21.2	0.07	3.00E-4
0.16631	578.3	223.5	205.0	0.726	0.0	21.2	0.07	3.00E-4
0.1659	579.5	224.6	210.0	0.746	0.0	21.2	0.07	3.00E-4
0.16549	580.7	225.7	215.0	0.765	0.0	21.2	0.07	3.00E-4
0.16507	582.0	226.9	220.0	0.785	0.0	21.2	0.07	3.00E-4
0.16464	583.2	228.0	225.0	0.805	0.0	21.2	0.07	3.00E-4
0.1642	584.6	229.1	230.0	0.825	0.0	21.2	0.07	3.00E-4
0.16375	585.9	230.2	235.0	0.845	0.0	21.2	0.07	3.00E-4
0.1633	587.3	231.3	240.0	0.865	0.0	21.2	0.07	3.00E-4
0.16284	588.8	232.4	245.0	0.884	0.0	21.2	0.07	3.00E-4
0.16238	590.2	233.5	250.0	0.904	0.0	21.2	0.07	3.00E-4
0.16192	591.7	234.6	255.0	0.924	0.0	21.2	0.07	3.00E-4
0.16145	593.1	235.7	260.0	0.944	0.0	21.2	0.07	3.00E-4
0.16098	594.6	236.8	265.0	0.964	0.0	21.2	0.07	3.00E-4
0.16051	596.2	237.9	270.0	0.984	0.0	21.2	0.07	3.00E-4
0.16005	597.7	238.9	275.0	1.003	0.0	21.2	0.07	3.00E-4
0.15957	599.2	240.0	280.0	1.023	0.0	21.2	0.07	3.00E-4
0.15909	600.8	241.1	285.0	1.043	0.0	21.2	0.07	3.00E-4
0.15861	602.4	242.1	290.0	1.063	0.0	21.2	0.07	3.00E-4
0.15813	604.0	243.2	295.0	1.083	0.0	21.2	0.07	3.00E-4
0.15765	605.6	244.2	300.0	1.103	0.0	21.2	0.07	3.00E-4
0.15717	607.2	245.3	305.0	1.123	0.0	21.2	0.07	3.00E-4

count: 57

/ windows UM3.

Case 57; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur deg	Amb-dir m/s	Disprsn 0.67/s ²	Far-dir deg	Amb-sal	Amb-tem	Amb-pol	Solar rad
						psu	C	kg/kg	s-1
0.07	0.0	0.07	0.07	0.0003	90.0	34.96	25.49	0.0	0.000312
0.07	2.0	0.07	0.07	0.0003	90.0	34.96	25.49	0.0	0.000312
0.07	4.0	0.07	0.07	0.0003	90.0	34.97	25.48	0.0	0.000312
0.07	6.0	0.07	0.07	0.0003	90.0	34.97	25.48	0.0	0.000312
0.07	8.0	0.07	0.07	0.0003	90.0	34.97	25.48	0.0	0.000312
0.07	10.0	0.07	0.07	0.0003	90.0	34.98	25.47	0.0	0.000312
0.07	12.0	0.07	0.07	0.0003	90.0	34.98	25.48	0.0	0.000312
0.07	14.0	0.07	0.07	0.0003	90.0	35.01	25.49	0.0	0.000312
0.07	16.0	0.07	0.07	0.0003	90.0	35.01	25.48	0.0	0.000312
0.07	18.0	0.07	0.07	0.0003	90.0	35.01	25.48	0.0	0.000312
0.07	20.0	0.07	0.07	0.0003	90.0	35.01	25.47	0.0	0.000312
0.07	22.0	0.07	0.07	0.0003	90.0	35.01	25.46	0.0	0.000312
0.07	24.0	0.07	0.07	0.0003	90.0	35.01	25.46	0.0	0.000312
0.07	26.0	0.07	0.07	0.0003	90.0	35.01	25.46	0.0	0.000312
0.07	28.0	0.07	0.07	0.0003	90.0	35.01	25.46	0.0	0.000312
0.07	30.0	0.07	0.07	0.0003	90.0	35.01	25.46	0.0	0.000312
0.07	32.0	0.07	0.07	0.0003	90.0	35.01	25.46	0.0	0.000312

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	32.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
	33.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.149							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;	
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403;	
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508;	
120	103.5	0.07	37.06	9.289	10.56	-2.513	4.715;	
140	102.2	0.07	47.65	6.251	15.68	-2.963	6.023;	
160	100.6	0.07	60.79	4.207	23.28	-3.361	7.489;	
180	98.51	0.07	77.27	2.831	34.59	-3.714	9.199;	
200	95.95	0.07	98.01	1.905	51.39	-4.028	11.26;	
220	92.83	0.07	124.1	1.282	76.35	-4.307	13.8;	
221	92.66	0.07	125.6	1.257	77.88	-4.32	13.95; merging,	
240	87.96	0.07	166.5	0.863	113.4	-4.616	17.83;	
260	80.35	0.07	238.0	0.58	168.6	-4.946	23.97;	
280	68.76	0.07	348.7	0.391	250.5	-5.283	33.08;	
297	54.47	0.07	490.0	0.279	350.7	-5.572	44.16; axial vel	
0.0221	max dilution reached							
300	51.41	0.07	521.1	0.263	372.2	-5.623	46.53;	
320	26.48	0.07	822.1	0.177	553.0	-5.969	66.63;	
322	23.57	0.07	865.8	0.17	575.3	-6.005	69.19; axial vel	
0.0825	surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.80	
m	conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s) (m ^{0.67} /s ²)
0.16923	577.2	175.9	25.0	0.0152	0.0	21.2	0.07	3.00E-4
0.16934	576.6	177.3	30.0	0.035	0.0	21.2	0.07	3.00E-4
0.16935	576.3	178.7	35.0	0.0549	0.0	21.2	0.07	3.00E-4
0.16933	576.1	180.1	40.0	0.0747	0.0	21.2	0.07	3.00E-4
0.1693	576.0	181.5	45.0	0.0946	0.0	21.2	0.07	3.00E-4
0.16925	575.9	182.9	50.0	0.114	0.0	21.2	0.07	3.00E-4
0.1692	575.8	184.3	55.0	0.134	0.0	21.2	0.07	3.00E-4
0.16915	575.8	185.6	60.0	0.154	0.0	21.2	0.07	3.00E-4
0.16909	575.7	187.0	65.0	0.174	0.0	21.2	0.07	3.00E-4
0.16903	575.7	188.3	70.0	0.194	0.0	21.2	0.07	3.00E-4
0.16896	575.6	189.6	75.0	0.214	0.0	21.2	0.07	3.00E-4
0.16889	575.6	191.0	80.0	0.233	0.0	21.2	0.07	3.00E-4
0.16881	575.6	192.3	85.0	0.253	0.0	21.2	0.07	3.00E-4
0.16873	575.7	193.6	90.0	0.273	0.0	21.2	0.07	3.00E-4
0.16864	575.7	194.9	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.16853	575.8	196.2	100.0	0.313	0.0	21.2	0.07	3.00E-4
0.16842	576.0	197.4	105.0	0.333	0.0	21.2	0.07	3.00E-4
0.16829	576.2	198.7	110.0	0.353	0.0	21.2	0.07	3.00E-4
0.16814	576.4	200.0	115.0	0.372	0.0	21.2	0.07	3.00E-4
0.16798	576.8	201.2	120.0	0.392	0.0	21.2	0.07	3.00E-4
0.1678	577.1	202.5	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.16761	577.5	203.7	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.16739	578.0	204.9	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.16716	578.6	206.2	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.16691	579.3	207.4	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.16665	579.9	208.6	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.16637	580.7	209.8	155.0	0.531	0.0	21.2	0.07	3.00E-4

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0.16608	581.4	211.0	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.16577	582.3	212.2	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.16545	583.2	213.3	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.16512	584.1	214.5	175.0	0.61	0.0	21.2	0.07	3.00E-4
0.16477	585.1	215.7	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.16442	586.1	216.8	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.16405	587.2	218.0	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.16368	588.3	219.2	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.16329	589.5	220.3	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.16289	590.7	221.4	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.16248	591.9	222.6	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.16207	593.2	223.7	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.16165	594.5	224.8	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.16122	595.9	225.9	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.16079	597.2	227.0	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.16035	598.7	228.1	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.15989	600.1	229.2	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.15944	601.6	230.3	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.15899	603.1	231.4	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.15853	604.6	232.5	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.15806	606.1	233.6	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.1576	607.7	234.7	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.15713	609.3	235.7	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.15667	610.8	236.8	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.1562	612.4	237.9	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.15573	614.0	238.9	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.15525	615.7	240.0	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.15478	617.3	241.0	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.1543	619.0	242.0	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.15382	620.7	243.1	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 58; ambient file C:\Plumes\Kailua_avg8.001.db; Diffuser table record 1:

Far-spd m/s	Depth m	Amb-cur		Amb-dir deg	Amb-sal psu	Amb-tem c	Amb-pol kg/kg	Solar rad s-1
		Far-dir deg	Dispnsn m0.67/s2	deg				
0.07	0.0	90.0	0.0003	90.0	34.96	25.49	0.0	0.000312
0.07	2.0	90.0	0.0003	90.0	34.96	25.49	0.0	0.000312
0.07	4.0	90.0	0.0003	90.0	34.97	25.48	0.0	0.000312
0.07	6.0	90.0	0.0003	90.0	34.97	25.48	0.0	0.000312
0.07	8.0	90.0	0.0003	90.0	34.97	25.48	0.0	0.000312
0.07	10.0	90.0	0.0003	90.0	34.98	25.47	0.0	0.000312
0.07	12.0	90.0	0.0003	90.0	34.98	25.48	0.0	0.000312
0.07	14.0	90.0	0.0003	90.0	35.01	25.49	0.0	0.000312
0.07	16.0	90.0	0.0003	90.0	35.01	25.48	0.0	0.000312
0.07	18.0	90.0	0.0003	90.0	35.01	25.48	0.0	0.000312
0.07	20.0	90.0	0.0003	90.0	35.01	25.47	0.0	0.000312
0.07	22.0	90.0	0.0003	90.0	35.01	25.46	0.0	0.000312
0.07	24.0	90.0	0.0003	90.0	35.01	25.46	0.0	0.000312

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0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
Ttl-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.149							
Step	Depth	Amb-cur	P-dia	Polutnt	Dilutn	x-posn	y-posn	
	(ft)	(m/s)	(in)	(ppm)	(%)	(ft)	(ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508	
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403	
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508	
120	103.5	0.07	37.06	9.289	10.56	-2.513	4.715	
140	102.2	0.07	47.65	6.251	15.68	-2.963	6.023	
160	100.6	0.07	60.79	4.207	23.28	-3.361	7.489	
180	98.51	0.07	77.27	2.831	34.59	-3.714	9.199	
200	95.95	0.07	98.01	1.905	51.39	-4.028	11.26	
220	92.83	0.07	124.1	1.282	76.35	-4.307	13.8	
221	92.66	0.07	125.6	1.257	77.88	-4.32	13.95	
240	87.96	0.07	166.5	0.863	113.4	-4.616	17.83	
260	80.35	0.07	238.0	0.58	168.6	-4.946	23.97	
280	68.76	0.07	348.7	0.391	250.5	-5.283	33.08	
297	54.47	0.07	490.0	0.279	350.7	-5.572	44.16	
0.0221	max dilution reached						axial vel	
300	51.41	0.07	521.1	0.263	372.2	-5.623	46.53	
320	26.48	0.07	822.1	0.177	553.0	-5.969	66.63	
322	23.57	0.07	865.8	0.17	575.3	-6.005	69.19	
0.0825	surface,						axial vel	
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.80	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr) (m/s)(m ^{0.67} /s ²)	
0.16923	577.2	175.9	25.0	0.0152	0.0	21.2	0.07 3.00E-4	
0.16934	576.6	177.3	30.0	0.035	0.0	21.2	0.07 3.00E-4	
0.16935	576.3	178.7	35.0	0.0549	0.0	21.2	0.07 3.00E-4	
0.16933	576.1	180.1	40.0	0.0747	0.0	21.2	0.07 3.00E-4	
0.1693	576.0	181.5	45.0	0.0946	0.0	21.2	0.07 3.00E-4	
0.16925	575.9	182.9	50.0	0.114	0.0	21.2	0.07 3.00E-4	
0.1692	575.8	184.3	55.0	0.134	0.0	21.2	0.07 3.00E-4	
0.16915	575.8	185.6	60.0	0.154	0.0	21.2	0.07 3.00E-4	
0.16909	575.7	187.0	65.0	0.174	0.0	21.2	0.07 3.00E-4	
0.16903	575.7	188.3	70.0	0.194	0.0	21.2	0.07 3.00E-4	
0.16896	575.6	189.6	75.0	0.214	0.0	21.2	0.07 3.00E-4	
0.16889	575.6	191.0	80.0	0.233	0.0	21.2	0.07 3.00E-4	
0.16881	575.6	192.3	85.0	0.253	0.0	21.2	0.07 3.00E-4	
0.16873	575.7	193.6	90.0	0.273	0.0	21.2	0.07 3.00E-4	
0.16864	575.7	194.9	95.0	0.293	0.0	21.2	0.07 3.00E-4	
0.16853	575.8	196.2	100.0	0.313	0.0	21.2	0.07 3.00E-4	
0.16842	576.0	197.4	105.0	0.333	0.0	21.2	0.07 3.00E-4	
0.16829	576.2	198.7	110.0	0.353	0.0	21.2	0.07 3.00E-4	
0.16814	576.4	200.0	115.0	0.372	0.0	21.2	0.07 3.00E-4	
0.16798	576.8	201.2	120.0	0.392	0.0	21.2	0.07 3.00E-4	

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0.1678	577.1	202.5	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.16761	577.5	203.7	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.16739	578.0	204.9	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.16716	578.6	206.2	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.16691	579.3	207.4	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.16665	579.9	208.6	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.16637	580.7	209.8	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.16608	581.4	211.0	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.16577	582.3	212.2	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.16545	583.2	213.3	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.16512	584.1	214.5	175.0	0.61	0.0	21.2	0.07	3.00E-4
0.16477	585.1	215.7	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.16442	586.1	216.8	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.16405	587.2	218.0	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.16368	588.3	219.2	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.16329	589.5	220.3	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.16289	590.7	221.4	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.16248	591.9	222.6	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.16207	593.2	223.7	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.16165	594.5	224.8	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.16122	595.9	225.9	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.16079	597.2	227.0	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.16035	598.7	228.1	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.15989	600.1	229.2	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.15944	601.6	230.3	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.15899	603.1	231.4	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.15853	604.6	232.5	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.15806	606.1	233.6	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.1576	607.7	234.7	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.15713	609.3	235.7	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.15667	610.8	236.8	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.1562	612.4	237.9	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.15573	614.0	238.9	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.15525	615.7	240.0	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.15478	617.3	241.0	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.1543	619.0	242.0	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.15382	620.7	243.1	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 59; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	Solar	rad
	Far-dir	Disprsn						s-1
m/s	m	m/s	deg	psu	C	kg/kg		
0.07	0.0	0.07	90.0	34.96	25.49	0.0	0.000312	
0.07	2.0	0.07	90.0	34.96	25.49	0.0	0.000312	
0.07	4.0	0.07	90.0	34.97	25.48	0.0	0.000312	
0.07	6.0	0.07	90.0	34.97	25.48	0.0	0.000312	
0.07	8.0	0.07	90.0	34.97	25.48	0.0	0.000312	
0.07	10.0	0.07	90.0	34.98	25.47	0.0	0.000312	
0.07	12.0	0.07	90.0	34.98	25.48	0.0	0.000312	
0.07	14.0	0.07	90.0	35.01	25.49	0.0	0.000312	
0.07	16.0	0.07	90.0	35.01	25.48	0.0	0.000312	
0.07	90.0	0.0003						

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0.07	18.0	0.07	90.0	35.01	25.48	0.0	0.000312	
	90.0	0.0003						
0.07	20.0	0.07	90.0	35.01	25.47	0.0	0.000312	
	90.0	0.0003						
0.07	22.0	0.07	90.0	35.01	25.46	0.0	0.000312	
	90.0	0.0003						
0.07	24.0	0.07	90.0	35.01	25.46	0.0	0.000312	
	90.0	0.0003						
0.07	26.0	0.07	90.0	35.01	25.46	0.0	0.000312	
	90.0	0.0003						
0.07	28.0	0.07	90.0	35.01	25.46	0.0	0.000312	
	90.0	0.0003						
0.07	30.0	0.07	90.0	35.01	25.46	0.0	0.000312	
	90.0	0.0003						
0.07	32.0	0.07	90.0	35.01	25.46	0.0	0.000312	
	90.0	0.0003						
0.07	33.0	0.07	90.0	35.01	25.46	0.0	0.000312	
	90.0	0.0003						
0.07	Ttl-flo	Temp						
	(MGD)	(C)						
	15.25	28.04						
Froude number:	6.149							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508	
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403	
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508	
120	103.5	0.07	37.06	9.289	10.56	-2.513	4.715	
140	102.2	0.07	47.65	6.251	15.68	-2.963	6.023	
160	100.6	0.07	60.79	4.207	23.28	-3.361	7.489	
180	98.51	0.07	77.27	2.831	34.59	-3.714	9.199	
200	95.95	0.07	98.01	1.905	51.39	-4.028	11.26	
220	92.83	0.07	124.1	1.282	76.35	-4.307	13.8	
221	92.66	0.07	125.6	1.257	77.88	-4.32	13.95	
240	87.96	0.07	166.5	0.863	113.4	-4.616	17.83	
260	80.35	0.07	238.0	0.58	168.6	-4.946	23.97	
280	68.76	0.07	348.7	0.391	250.5	-5.283	33.08	
297	54.47	0.07	490.0	0.279	350.7	-5.572	44.16	
0.0221	max dilution reached						axial vel	
300	51.41	0.07	521.1	0.263	372.2	-5.623	46.53	
320	26.48	0.07	822.1	0.177	553.0	-5.969	66.63	
322	23.57	0.07	865.8	0.17	575.3	-6.005	69.19	
0.0825	surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.80	
m	conc (ppm)	dilutn (m)	width (m)	distnce (m)	time (hrs)	(ppm)	(ly/hr)	(m/s)(m ^{0.67} /s ²)
0.16923	577.2	175.9	25.0	0.0152	0.0	21.2	0.07	3.00E-4
0.16934	576.6	177.3	30.0	0.035	0.0	21.2	0.07	3.00E-4
0.16935	576.3	178.7	35.0	0.0549	0.0	21.2	0.07	3.00E-4
0.16933	576.1	180.1	40.0	0.0747	0.0	21.2	0.07	3.00E-4
0.1693	576.0	181.5	45.0	0.0946	0.0	21.2	0.07	3.00E-4
0.16925	575.9	182.9	50.0	0.114	0.0	21.2	0.07	3.00E-4
0.1692	575.8	184.3	55.0	0.134	0.0	21.2	0.07	3.00E-4
0.16915	575.8	185.6	60.0	0.154	0.0	21.2	0.07	3.00E-4
0.16909	575.7	187.0	65.0	0.174	0.0	21.2	0.07	3.00E-4
0.16903	575.7	188.3	70.0	0.194	0.0	21.2	0.07	3.00E-4
0.16896	575.6	189.6	75.0	0.214	0.0	21.2	0.07	3.00E-4
0.16889	575.6	191.0	80.0	0.233	0.0	21.2	0.07	3.00E-4
0.16881	575.6	192.3	85.0	0.253	0.0	21.2	0.07	3.00E-4

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0.16873	575.7	193.6	90.0	0.273	0.0	21.2	0.07	3.00E-4
0.16864	575.7	194.9	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.16853	575.8	196.2	100.0	0.313	0.0	21.2	0.07	3.00E-4
0.16842	576.0	197.4	105.0	0.333	0.0	21.2	0.07	3.00E-4
0.16829	576.2	198.7	110.0	0.353	0.0	21.2	0.07	3.00E-4
0.16814	576.4	200.0	115.0	0.372	0.0	21.2	0.07	3.00E-4
0.16798	576.8	201.2	120.0	0.392	0.0	21.2	0.07	3.00E-4
0.1678	577.1	202.5	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.16761	577.5	203.7	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.16739	578.0	204.9	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.16716	578.6	206.2	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.16691	579.3	207.4	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.16665	579.9	208.6	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.16637	580.7	209.8	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.16608	581.4	211.0	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.16577	582.3	212.2	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.16545	583.2	213.3	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.16512	584.1	214.5	175.0	0.61	0.0	21.2	0.07	3.00E-4
0.16477	585.1	215.7	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.16442	586.1	216.8	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.16405	587.2	218.0	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.16368	588.3	219.2	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.16329	589.5	220.3	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.16289	590.7	221.4	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.16248	591.9	222.6	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.16207	593.2	223.7	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.16165	594.5	224.8	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.16122	595.9	225.9	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.16079	597.2	227.0	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.16035	598.7	228.1	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.15989	600.1	229.2	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.15944	601.6	230.3	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.15899	603.1	231.4	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.15853	604.6	232.5	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.15806	606.1	233.6	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.1576	607.7	234.7	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.15713	609.3	235.7	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.15667	610.8	236.8	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.1562	612.4	237.9	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.15573	614.0	238.9	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.15525	615.7	240.0	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.15478	617.3	241.0	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.1543	619.0	242.0	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.15382	620.7	243.1	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

/ Windows UM3.

Case 60; ambient file C:\Plumes\kailua_avg8.001.db; Diffuser table record 1:

Far-spd	Depth	Amb-cur	Amb-dir	Amb-sal	Amb-tem	Amb-pol	solar	rad
	Far-dir	Disprsn		psu	c	kg/kg		s-1
m/s	m	m/s	deg					
0.07	0.0	0.07	90.0	34.96	25.49	0.0	0.000312	
	2.0	0.07	0.0003					
0.07	90.0	0.07	90.0	34.96	25.49	0.0	0.000312	
	4.0	0.07	0.0003					
0.07	90.0	0.07	90.0	34.97	25.48	0.0	0.000312	
	6.0	0.07	0.0003					
0.07	90.0	0.07	90.0	34.97	25.48	0.0	0.000312	
	8.0	0.07	0.0003					
0.07	90.0	0.07	90.0	34.98	25.47	0.0	0.000312	
	10.0	0.07	0.0003					

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0.07	90.0	0.0003						
0.07	12.0	0.07	90.0	34.98	25.48	0.0	0.000312	
0.07	90.0	0.0003						
0.07	14.0	0.07	90.0	35.01	25.49	0.0	0.000312	
0.07	90.0	0.0003						
0.07	16.0	0.07	90.0	35.01	25.48	0.0	0.000312	
0.07	90.0	0.0003						
0.07	18.0	0.07	90.0	35.01	25.48	0.0	0.000312	
0.07	90.0	0.0003						
0.07	20.0	0.07	90.0	35.01	25.47	0.0	0.000312	
0.07	90.0	0.0003						
0.07	22.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
0.07	24.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
0.07	26.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
0.07	28.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
0.07	30.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
0.07	32.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
0.07	33.0	0.07	90.0	35.01	25.46	0.0	0.000312	
0.07	90.0	0.0003						
Tt1-flo	Temp							
(MGD)	(C)							
15.25	28.04							
Froude number:	6.149							
Step	Depth (ft)	Amb-cur (m/s)	P-dia (in)	Polutnt (ppm)	Dilutn (%)	x-posn (ft)	y-posn (ft)	
0	105.5	0.07	5.004	100.0	1.0	0.0	0.0;	
20	105.4	0.07	7.241	67.3	1.475	-0.239	0.349;	
40	105.4	0.07	10.51	45.29	2.182	-0.558	0.837;	
60	105.3	0.07	15.05	30.48	3.232	-0.967	1.508;	
80	105.0	0.07	21.03	20.51	4.793	-1.464	2.403;	
100	104.4	0.07	28.34	13.8	7.111	-2.007	3.508;	
120	103.5	0.07	37.06	9.289	10.56	-2.513	4.715;	
140	102.2	0.07	47.65	6.251	15.68	-2.963	6.023;	
160	100.6	0.07	60.79	4.207	23.28	-3.361	7.489;	
180	98.51	0.07	77.27	2.831	34.59	-3.714	9.199;	
200	95.95	0.07	98.01	1.905	51.39	-4.028	11.26;	
220	92.83	0.07	124.1	1.282	76.35	-4.307	13.8;	
221	92.66	0.07	125.6	1.257	77.88	-4.32	13.95;	
240	87.96	0.07	166.5	0.863	113.4	-4.616	17.83;	
260	80.35	0.07	238.0	0.58	168.6	-4.946	23.97;	
280	68.76	0.07	348.7	0.391	250.5	-5.283	33.08;	
297	54.47	0.07	490.0	0.279	350.7	-5.572	44.16; axial vel	
0.0221	max dilution reached							
300	51.41	0.07	521.1	0.263	372.2	-5.623	46.53;	
320	26.48	0.07	822.1	0.177	553.0	-5.969	66.63;	
322	23.57	0.07	865.8	0.17	575.3	-6.005	69.19; axial vel	
0.0825	surface,							
Const Eddy Diffusivity.	Farfield dispersion based on wastefield width of						174.80	
m	conc	dilutn	width	distnce	time			
	(ppm)		(m)	(m)	(hrs)	(ppm)	(ly/hr) (m/s)(m ^{0.67} /s ²)	
0.16923	577.2	175.9	25.0	0.0152	0.0	21.2	0.07 3.00E-4	
0.16934	576.6	177.3	30.0	0.035	0.0	21.2	0.07 3.00E-4	
0.16935	576.3	178.7	35.0	0.0549	0.0	21.2	0.07 3.00E-4	
0.16933	576.1	180.1	40.0	0.0747	0.0	21.2	0.07 3.00E-4	
0.1693	576.0	181.5	45.0	0.0946	0.0	21.2	0.07 3.00E-4	
0.16925	575.9	182.9	50.0	0.114	0.0	21.2	0.07 3.00E-4	

					Kailua_avg8.txt			
0.1692	575.8	184.3	55.0	0.134	0.0	21.2	0.07	3.00E-4
0.16915	575.8	185.6	60.0	0.154	0.0	21.2	0.07	3.00E-4
0.16909	575.7	187.0	65.0	0.174	0.0	21.2	0.07	3.00E-4
0.16903	575.7	188.3	70.0	0.194	0.0	21.2	0.07	3.00E-4
0.16896	575.6	189.6	75.0	0.214	0.0	21.2	0.07	3.00E-4
0.16889	575.6	191.0	80.0	0.233	0.0	21.2	0.07	3.00E-4
0.16881	575.6	192.3	85.0	0.253	0.0	21.2	0.07	3.00E-4
0.16873	575.7	193.6	90.0	0.273	0.0	21.2	0.07	3.00E-4
0.16864	575.7	194.9	95.0	0.293	0.0	21.2	0.07	3.00E-4
0.16853	575.8	196.2	100.0	0.313	0.0	21.2	0.07	3.00E-4
0.16842	576.0	197.4	105.0	0.333	0.0	21.2	0.07	3.00E-4
0.16829	576.2	198.7	110.0	0.353	0.0	21.2	0.07	3.00E-4
0.16814	576.4	200.0	115.0	0.372	0.0	21.2	0.07	3.00E-4
0.16798	576.8	201.2	120.0	0.392	0.0	21.2	0.07	3.00E-4
0.1678	577.1	202.5	125.0	0.412	0.0	21.2	0.07	3.00E-4
0.16761	577.5	203.7	130.0	0.432	0.0	21.2	0.07	3.00E-4
0.16739	578.0	204.9	135.0	0.452	0.0	21.2	0.07	3.00E-4
0.16716	578.6	206.2	140.0	0.472	0.0	21.2	0.07	3.00E-4
0.16691	579.3	207.4	145.0	0.491	0.0	21.2	0.07	3.00E-4
0.16665	579.9	208.6	150.0	0.511	0.0	21.2	0.07	3.00E-4
0.16637	580.7	209.8	155.0	0.531	0.0	21.2	0.07	3.00E-4
0.16608	581.4	211.0	160.0	0.551	0.0	21.2	0.07	3.00E-4
0.16577	582.3	212.2	165.0	0.571	0.0	21.2	0.07	3.00E-4
0.16545	583.2	213.3	170.0	0.591	0.0	21.2	0.07	3.00E-4
0.16512	584.1	214.5	175.0	0.61	0.0	21.2	0.07	3.00E-4
0.16477	585.1	215.7	180.0	0.63	0.0	21.2	0.07	3.00E-4
0.16442	586.1	216.8	185.0	0.65	0.0	21.2	0.07	3.00E-4
0.16405	587.2	218.0	190.0	0.67	0.0	21.2	0.07	3.00E-4
0.16368	588.3	219.2	195.0	0.69	0.0	21.2	0.07	3.00E-4
0.16329	589.5	220.3	200.0	0.71	0.0	21.2	0.07	3.00E-4
0.16289	590.7	221.4	205.0	0.729	0.0	21.2	0.07	3.00E-4
0.16248	591.9	222.6	210.0	0.749	0.0	21.2	0.07	3.00E-4
0.16207	593.2	223.7	215.0	0.769	0.0	21.2	0.07	3.00E-4
0.16165	594.5	224.8	220.0	0.789	0.0	21.2	0.07	3.00E-4
0.16122	595.9	225.9	225.0	0.809	0.0	21.2	0.07	3.00E-4
0.16079	597.2	227.0	230.0	0.829	0.0	21.2	0.07	3.00E-4
0.16035	598.7	228.1	235.0	0.849	0.0	21.2	0.07	3.00E-4
0.15989	600.1	229.2	240.0	0.868	0.0	21.2	0.07	3.00E-4
0.15944	601.6	230.3	245.0	0.888	0.0	21.2	0.07	3.00E-4
0.15899	603.1	231.4	250.0	0.908	0.0	21.2	0.07	3.00E-4
0.15853	604.6	232.5	255.0	0.928	0.0	21.2	0.07	3.00E-4
0.15806	606.1	233.6	260.0	0.948	0.0	21.2	0.07	3.00E-4
0.1576	607.7	234.7	265.0	0.968	0.0	21.2	0.07	3.00E-4
0.15713	609.3	235.7	270.0	0.987	0.0	21.2	0.07	3.00E-4
0.15667	610.8	236.8	275.0	1.007	0.0	21.2	0.07	3.00E-4
0.1562	612.4	237.9	280.0	1.027	0.0	21.2	0.07	3.00E-4
0.15573	614.0	238.9	285.0	1.047	0.0	21.2	0.07	3.00E-4
0.15525	615.7	240.0	290.0	1.067	0.0	21.2	0.07	3.00E-4
0.15478	617.3	241.0	295.0	1.087	0.0	21.2	0.07	3.00E-4
0.1543	619.0	242.0	300.0	1.106	0.0	21.2	0.07	3.00E-4
0.15382	620.7	243.1	305.0	1.126	0.0	21.2	0.07	3.00E-4

count: 57

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10:41:07 AM. amb fills: 2